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Risk Assessment, Management, Communication
A Guide to Selected Sources
Volume 2, Number 1

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Washington, DC

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Volume 2, Number 1

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This is the fifth update to the March 1987 publication entitled Risk Assessment, Management, Communication: A Guide to Selected Sources. The risk update series is divided into three major sections: Assessment, Management and Communications. This issue includes citations published between September 1987 and March 1988. The quarterly updates to the original guide constitute volume 1 of this series.

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March 1988

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* Indicates that no references were found for this section.

This issue of Risk Assessment, Management and Communication: A Guide to Selected Sources has been prepared and reviewed by the Environmental Protection Agency (EPA). Due to the rapidly expanding field of risk information, EPA cannot guarantee that all relevant sources are cited. Publication does not signify that the contents reflect the views of EPA or that EPA endorses the coverage and scope of the subject matter as comprehensive, complete and appropriate.

INTRODUCTION

This issue of Risk Assessment, Management and Communication:A Guide to Selected Sources is the fifth update in EPA's series of risk management bibliographies. References were gathered from the environmental, medical and scientific literature included in the following databases: Toxline, Conference Papers Index, Enviroline, NTIS, PAIS Public Affairs Information Service, ABI Inform, and Legal Resource Index. The citations cover documents added to those collections during the period from November 1987 through February 1988. The original Guide appeared in March 1987 and was followed by quarterly updates. These earlier volumes constitute volume one of the current semiannual series.

Like its predecessors, this document is subdivided into Risk Assessment, Risk Management and Risk Communication. The Table of Contents lists further divisions of each of these categories. Citations are arranged alphabetically by title, with the exception of the chemical specific references. These citations are grouped alphabetically by chemical name. Abstracts in the Risk Assessment section have been shortened or eliminated if the content of the article is adequately reflected in the title.

The EPA library network can assist EPA staff members and EPA contractors in obtaining materials cited in the bibliography. Reference copies of the original Guide and subsequent issues are available through NTIS at the following address:

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5285 Port Royal Road
Springfield, Virginia 22161

703-487-4650
800-336-4700 (outside Virginia)

* Guide: PB87-185500
1st Update: PB87-203402/AS
2nd Update: PB88-100102
3rd Update: PB88-128178

Questions or comments concerning Risk Assessment, Management, Communication: A Guide to Selected Sources may be sent to:

EPA Headquarters Library PM-211A
Risk Management Bibliographies
401 M St., S.W.
Washington, D.C. 2046

* These four issues constitute volume 1 of the current series.

RISK ASSESSMENT

...IS THE SCIENTIFIC PROCESS
THAT EVALUATES THE POTENTIAL FOR
OCCURRENCE OF ADVERSE EFFECT.

GENERAL PERSPECTIVE....includes cross media approach, de minimis risk, and uncertainty in assessment.

Environmental protection: laying the foundation for the year 2000.
Russell, Milton
Environmental Forum 4 n10 7(6) Feb, 1986
GEOGRAPHIC CODE: NNUS
JURISDICTION: United States
SIC CODE: 9511
DESCRIPTORS: Environmental protection--forecasts; United States. Environmental Protection Agency--aims and objectives; Risk assessment--environmental aspects (LEGAL RESOURCE INDEX)

Perspectives in Risk: Compared to What?
Fox, Michael R.
Vital Speeches v53n23 PP: 730-732 Sep 15, 1987
AVAILABILITY: ABI/INFORM
The result of vigorous risk reduction is drastically increased cost, a trade-off that society usually is unwilling to make. The concept of "acceptable risk" tries to resolve the conflict between dollars and safety, and the psychology of risk assessment produces strange developments. While society determines widespread death and destruction to be an acceptable cost of automobile usage, the nuclear industry, even with a near-perfect safety record, is viewed as too dangerous. Adverse health effects caused by politically popular energy alternatives are ignored while the comparatively small risk of nuclear power is vastly overblown. A 1982 Scientific American article highlighted the difference between perception and reality of risk when a League of Women Voters group and a group of college students ranked nuclear power as riskier than smoking, which takes 150,000 lives per year, and driving, which takes 45,000. Society should invest its safety dollars where greater actual risk exists. (ABI/INFORM)

ASSESSMENT GUIDELINES

BIOTECHNOLOGY AND THE ENVIRONMENT: RESEARCH NEEDS,
OMENN GILBERT S. ; TEICH ALBERT H.
(UNIV WASHINGTON) AND ; (AAAS),
NOYES DATA CORP (PARK RIDGE, NJ), 1986 (169)
BOOK DISCUSSED ARE RESEARCH NEEDS RELATING TO THE EFFECTS OF BIOTECHNOLOGY IN THE ENVIRONMENT, INCLUDING KEY CONCERNS AND RECOMMENDATIONS, ENVIRONMENTAL AND HEALTH EFFECTS, MONITORING AND QUALITY ASSURANCE, CONTROL TECHNOLOGIES, RESEARCH PLAN FOR TEST METHODS, DEVELOPMENT OF RISK ASSESSMENT FOR NOVEL MICROBES RELEASED INTO TERRESTRIAL AND AQUATIC ECOSYSTEMS, BIOTECHNOLOGY HEALTH RISKS, ENVIRONMENTAL ENGINEERING RESEARCH SUPPORT PROPOSAL, AND MONITORING TECHNIQUES FOR GENETICALLY ENGINEERED MICROORGANISMS. (ENVIROLINE)

ENVIRONMENTAL IMPLICATIONS OF RECOMBINANT DNA TECHNOLOGY,
GLICK BERNARD R. ; SKOF YVONNE C.
UNIV OF WATERLOO, ONTARIO,
BIOTECHNOLOGY ADVANCES, 1986, V4, N2, P261(17)
JOURNAL ARTICLE APPLICATIONS OF RDNA TECHNOLOGY ARE DISCUSSED INCLUDING RISK ASSESSMENT, CONTAINED APPLICATIONS, KILLED MICROORGANISMS FORMING THE PRODUCT, ENVIRONMENTAL RELEASE, VACCINIA VACCINES, BACTERIAL AND FUNGAL FERTILIZERS, MICROBIAL PESTICIDES, GENETICALLY ENGINEERED PLANTS, WASTE TREATMENT AND POLLUTION CONTROL, AND MICROBIAL ORE LEACHING AND RECOVERY. SOME OF THE POTENTIAL ENVIRONMENTAL IMPACTS OF RDNA TECHNOLOGY ARE DESCRIBED AND DISCUSSED. APPLICATIONS AND IMPACTS OF TRADITIONAL BIOTECHNOLOGY ARE DISCUSSED WHERE THESE PROVIDE EITHER SIGNIFICANT PARALLELS WITH NEWER APPLICATIONS OR USEFUL INSIGHTS INTO THE POTENTIAL EFFECTS OF GENETIC MANIPULATIONS. (49 REFERENCES) (ENVIROLINE)

Research Needs for Dealing with Uncertainty in Risk Analysis
(Final rept)
Little (Arthur D.), Inc., Cambridge, MA.
Corp. Source Codes: 016223000
Sponsor: National Science Foundation, Washington, DC. Div. of Policy Research and Analysis.
Report No.: NSF/PRA-83043
Sep 83 74p
Languages: English Document Type: Conference proceeding
NTIS Prices: PC A04/MF A01 Journal Announcement: GRAI8409
Country of Publication: United States
Contract No.: NSF-PRA84-40855
Discussions are summarized from the workshop held to: (1) identify major generic problems of uncertainty in the risk analysis process; (2) summarize methods and approaches that could be used to deal with these problems; and (3) suggest areas and topics warranting further research to address those

problems that are not adequately treated by existing methods. The workshop format is described and participants are listed. Thirteen areas warranting further research are identified: (1) estimation of low probabilities; (2) dealing with model uncertainty; (3) representation of uncertainty; (4) description of risks and behaviors; (5) responses to rare events; (6) data collection strategies; (7) resource allocation to hazards; (8) use of experts in risk analysis; (9) role of incentives in risk management; (10) ethics for imposition; (11) retrospective review of risk studies; (12) long-range risk analysis; and (13) natural experiments. These research topics are ranked and compared in terms of both importance and feasibility. (NTIS)

Safety Guidelines and Procedures for Bioscience-Based Industry and Other Applied Microbiology

United Nations Industrial Development Organization, Vienna (Austria).
Corp. Source Codes: 057483000
Report No.: UNIDO-ID/WG.463/1
23 Apr 86 19p
Presented at Informal UNIDO/WHO/UNEP Working Group on Biotechnology Safety, Vienna, Austria, January 27-29, 1986.
Languages: English
NTIS Prices: PC E02/MF A01 Journal Announcement: GRAI8709
Country of Publication: Other

The United Nations Industrial Development Organization (UNIDO) publication on industrial safety for biotechnology research and development and applied microbiology covers: (1) project objectives; (2) risk and risk assessment, the IBRD guidelines, the World Health Organization classification system; (3) conjectural risks associated with applied biotechnology. (NTIS)

QUANTITATIVE RISK ASSESSMENT AND PHARMACOKINETICS ... includes clinical and physiological pharmacokinetics, drug metabolism, acceptable daily intake (ADI), quantitative structure-activity relationship (QSAR), dose-response relationship

EXPOSURE-INTEGRATED PHYSIOLOGICALLY BASED PHARMACOKINETIC MODELS FOR RISK ASSESSMENT OF ENVIRONMENTAL CARCINOGENS (ENGLISH)
BOGEN KT; MCKONE TE; LAYTON DW
UNIV CALIF LAWRENCE LIVERMORE NATL LAB,DIV ENVIRONM SCI/LIVERMORE//CA/94550
TOXICOLOGY , V47, N1-2, P206-206, 1987 (SCISEARCH)

Interspecies extrapolations in risk analysis.
Travis CC
Toxicology 1987 Dec 1;47(1-2):3-13
Quantitative risk assessment for carcinogenic chemicals is usually based on data obtained in animal studies conducted at very high levels of exposure. A key issue in using such data is the extrapolation of results from animals to man. Recently, physiological pharmacokinetic models can also be used to aid in extrapolating extrapolations. The models can also be used to aid in extrapolating between routes of administration. (NLM)

Physiologically based pharmacokinetics and the risk assessment process for methylene chloride.
Clewell HJ 3d; Gargas ML; Smith FA; Reitz RH
Toxicol Appl Pharmacol 1987 Feb;87(2):185-205 (NLM)
Methylene chloride (dichloromethane, DCM) is metabolized by two pathways: one dependent on oxidation by mixed function oxidases (MFO) and the other dependent on glutathione S-transferases (GST). A physiologically based pharmacokinetic (PB-PK) model based on knowledge of these pathways was used to describe the metabolism of DCM in four mammalian species (mouse, rat, hamster, and humans). Kinetic constants for the model were derived from in vivo experiments or the literature. The model was constructed to distinguish contributions from the two pathways of metabolism in lung and liver tissue, and to permit extrapolation from rodents to humans. Model validation was conducted by comparing predicted blood concentration time-course data in rats, mice, and humans with experimental data from these species. The tumor incidence in two chronic studies of DCM toxicity in mice was correlated with various measures of target tissue dose calculated with the PB-PK model. Tumor incidence correlated well with tissue AUC (area under the concentration/time curve) and amount of DCM metabolized by the GST pathway. However, tumor incidence did not correlate with the amount of DCM metabolized by the MFO pathway. Because of

its low chemical reactivity, DCM is unlikely to be directly involved in carcinogenesis. Consequently, metabolism of DCM by appears to be important in carcinogenesis. The PB-PK model was used to estimate target doses of presumed toxic chemical species in humans exposed to DCM by inhalation or by drinking water. Target tissue doses in humans exposed to low concentrations of DCM are 140- to 170-fold lower (inhalation) or 50- to 210-fold lower (drinking water) than would be expected from the linear extrapolation and body surface area factors which have been used in conventional risk assessment methods (D. V. Singh, H. L. Spitzer, and P. D. White (1985). Addendum to the Health Assessment Document for Dichloromethane (Methylene Chloride). EPA/600/8-82/004F). The PB-BK analysis thus suggests that conventional risk analyses greatly overestimate the risk in humans exposed to low concentrations of DCM. PB-PK considerations provide a scientific basis for risk assessment, improve experimental design in chronic studies, and structure collection of quantitative metabolic constants required for risk assessment. (NLM)

METHODS OF ESTIMATING AND MEASURING RISK

Chemical Transport, Human Exposure and Health Risk: A Multimedia Approach
McKone, T. E. ; Layton, D. W.
Lawrence Livermore National Lab., CA.
Corp. Source Codes: 068147000; 9513035
Sponsor: Department of Energy, Washington, DC.
Report No.: UCRL-94352; CONF-8604251-1
Aug 86 19p
APCA international speciality conference on environmental risk analysis, Chicago, IL, USA, 8 Apr 1986.
Languages: English Document Type: Conference proceeding
NTIS Prices: PC A02/MF A01 Journal Announcement: GRAI8709; NSA1200
Country of Publication: United States
Contract No.: W-7405-ENG-48

Multimedia models simulate the transport and transformation of chemicals in multiple environmental media, such as air, water, soil, biota, and sediments. Such models are useful for developing macroscopic view of environmental chemistry. In this paper we explore the use of multimedia models in risk assessment. We begin with a discussion of how multimedia models can be used to enhance the risk-assessment/management process. This is followed by a description of a multimedia model, called GEOTOX, that uses physicochemical and landscape properties to estimate the intermedia transport rates of a chemical. These rates are used to estimate chemical concentrations in the air, water, soil, and food of a representative or generic environment. We use these concentrations in exposure-pathway models to calculate quantities absorbed by humans; then, dose-response data are used to estimate health risks. We illustrate the use of these models in a risk-based screening procedure for hazardous chemicals. The paper concludes with a discussion of the limits and capabilities of this approach. (ERA citation 12:001729) (NTIS)

DRINKING WATER AND HEALTH,
US NATL RESEARCH COUNCIL REPORT, 1986 (475)
FED GOVT REPORT THE STATE OF THE ART IN THE DEVELOPING FIELD OF RISK ASSESSMENT IS EXAMINED AS IT PERTAINS TO DRINKING WATER AND HEALTH. SOME RISK ASSESSMENTS ARE PROVIDED FOR DRINKING WATER EXPOSURE TO 14 COMPOUNDS OF INTEREST TO EPA. EXPERIMENTAL RESEARCH ADDRESSING REPRODUCTIVE TOXICITY, NEUROTOXICITY, CARCINOGENESIS, AND DOSE-ROUTE EXTRAPOLATIONS IS HIGHLIGHTED. CANCER RISK IS ESTIMATED FOR THE 14 CHEMICALS IN DRINKING WATER. WHEN ADEQUATE EVIDENCE SUGGESTS THAT A CHEMICAL IS NOT LIKELY TO BE A CARCINOGEN OR MUTAGEN, LEVELS OF EXPOSURE THAT WOULD NOT BE EXPECTED TO CAUSE ADVERSE HEALTH EFFECTS IN HUMANS ARE IDENTIFIED. FOR CARCINOGENS, THE MULTISTAGE MODEL IS USED TO ESTIMATE BOTH THE MAXIMAL LIKELIHOOD ESTIMATE AND THE UPPER 95% CONFIDENCE LIMIT OF RISK ASSOCIATED WITH A DAILY EXPOSURE TO 2 L OF DRINKING WATER CONTAINING 1 MG/L CONCENTRATION OF CHEMICAL. (ENVIROLINE)

The Mattman Model: The Risks of Special Events

Mattman, Jurg W.; Berlonghi, Alexander E.

Risk Mgmt v34n10 PP: 60-65 Oct 1987

AVAILABILITY: ABI/INFORM

The Mattman Model, which clarifies and simplifies the risk assessment process, can be used not only for making risk reduction recommendations prior to a special event, but also as a prototype for other areas, such as investment, political risk, and chemical risk. The model emphasizes a broad scope of observation. For assessing the risk of a special event, the model includes certain categories of observation: 1. special event domains and subdomain specifications, 2. designated protectees and unspecified subjects, 3. standard practice risk reducers, 4. location of security execution, 5. calendar and time considerations, 6. environmental conditions, 7. public status and identity, 8. degree of controversy, 9. level of public awareness, 10. compound stimulant influences, 11. maintenance, 12. severity of consequences, and 13. difficulty of risk neutralization. Risk reduction recommendations should be specific and based on true assertions and valid assessments. (ABI/INFORM)

HEALTH RISKS

GENERAL

Infection control: risk assessment and management for the dental health professional.
Scarlett MI; Furman LJ
Dent Hyg (Chic) 1987 Jul;61(7):300-3 (NLM)

Population Surveillance for Rare Health Events
Aldrich, T. E. ; Wilson, C. C. ; Easterly, C. E.
Arizona State Univ., Tempe.
Corp. Source Codes: 000950000; 0451000
Sponsor: Oak Ridge National Lab., TN. Health and Safety Research Div.; Department of Energy, Washington, DC.
Report No.: CONF-8508204-1
1985 13p
24. annual symposium of the National Center for Health Statistics, Bethesda, MD, USA, 19 Aug 1985.
Portions of this document are illegible in microfiche products.
Languages: English Document Type: Conference proceeding
NTIS Prices: PC A02/MF A01 Journal Announcement: GRAI8710; NSA1200
Country of Publication: United States
Contract No.: AC05-84OR21400
The use of health statistics data should be as one element in policy formation and decision making related to environmental health risks. Further, the practice of population surveillance is recommended when a choice is made to accept a low-level environmental risk(s), for which there are uncertain health effects and strong advantages. Especially encouraged is attention directed to the patterns of occurrence among rare health events, with environmental implications. Further work is needed on the use of health statistics with public health policy decisions. 20 refs., 1 fig., 2 tabs. (ERA citation 12:002051) (NTIS)

CANCER ....includes carcinogens, carcinogenesis, carcinogenicity, genetics, epidemiology, and multi-media exposure.

An IARC Manual series aimed at assisting cancer epidemiology and prevention. "Environmental carcinogens: selected methods of analysis:.
O'Neill IK; Fishbein L
Int J Environ Anal Chem 1986;26(3-4):229-40
Since 1975, the IARC has been preparing a series of volumes entitled "Environmental Carcinogens: Selected Methods of Analysis: (IARC Manual series) of which the purposes are to assist analysts, epidemiologists and regulatory authorities in planning or performing exposure measurements that are truly comparable between different studies. The Manual series provides

expert information within each volume on multi-media sampling, methods of analyses and some background of epidemiology, metabolism, use/occurrence for a group of known or suspect carcinogens. So far, eleven volumes have been published or are in preparation on the following subjects: N-nitrosamines, vinyl chloride, PAH, aromatic amines, mycotoxins, N-nitroso compounds, volatile halogenated hydrocarbons, metals, passive smoking, benzene and alkylated benzenes, dioxins, PCDFs and PCBs. The presentation will discuss needs and priorities for use of analytical chemistry in estimating exposures of apparently greatest relevance to cancer causation, i.e. the approach to developing this series. Indications from epidemiology, evaluations of carcinogenic risk to humans, and recent developments in total exposure assessment are that new methods and matrices need more emphasis, e.g. as with biochemical dosimetry, exhaled breath, and in indoor air. (NLM)

Quantitative risk assessment and cost-benefit analysis for carcinogens at EPA: a critique.

Perera, Frederica P.
J Public Health Policy 8:202-21 Summer '87, tables
LANGUAGE: Engl
DOC TYPE: P
Since 1982.
Unknown cost of relaxing regulation of environmental pollutants. (PAIS)

Contribution of toxicology towards risk assessment of carcinogens.

Kroes R
Arch Toxicol 1987;60(1-3):224-8
In the last decade many tests have been designed to detect possible carcinogenicity of compounds. Presently, many more or less simple and convenient systems are available to detect mutations, effects on chromosomes, DNA binding and damage and malignant transformation. These systems, which have been extensively refined during the last years, often show reasonably good relevance to carcinogenicity. Although inconsistencies in the patterns of response do indicate that their role as predictive indicators of carcinogenicity remains still uncertain, the use of such short-term tests in carcinogen risk assessment does seem feasible. Factors other than these tests should also be taken into consideration, since other characteristics like chemical structure, biotransformation, toxicokinetics, qualitative and quantitative physiological and/or morphological effects, species, strains, organ specificity, dose-response relation and information on studies in man, if available, are of importance too. In conjunction with the results of adequately performed carcinogenicity tests in mammals, one may attempt to classify carcinogens. Current knowledge does not permit a rigid classification, but may warrant a subclassification into carcinogens acting via a genetic or a non-genetic mechanism. It

is emphasized that on theoretical and practical grounds a different extrapolation system should be used for the different types of carcinogens in risk assessment procedures. Evaluations on individual compounds should be made to decide whether such genotoxic or non-genotoxic compounds should be permitted in the human environment.
REVIEW ARTICLE: 38 REFS. (NLM)

Model risk analysis of nitrosatable compounds in the diet as precursors of potential endogenous carcinogens.

Shephard SE; Schlatter C; Lutz WK

Institute of Toxicology, Swiss Federal Institute of Technology, Schwerzenbach.

IARC Sci Publ (FRANCE) 1987, (84) p328-32, ISSN 0300-5038
Journal Code: GKU

Languages: ENGLISH

The potential health risk posed by the endogenous formation of N-nitroso compounds (NOC) from nitrosation of dietary ureas, guanidines, amides, amino acids and amines (primary, secondary and aromatic) was estimated according to the model: Risk = [daily intake of precursor] X [gastric concentration of nitrite]n X [nitrosatability rate constant] X [carcinogenicity of derivative]. The daily intakes of these compound classes span five orders of magnitude (100 g/day amides, top; 1-10 mg/day secondary amines, ureas, bottom); the nitrosation rate constants span seven orders of magnitude (aryl amines, ureas, top; amides, secondary amines, bottom); and the carcinogenicity estimates span a 10,000-fold range from 'very strong' to 'virtually noncarcinogenic'. The resulting risk estimates likewise span an enormous range (nine orders of magnitude): dietary ureas and aromatic amines combined with high nitrite concentration could pose as great a risk as the intake of preformed N-nitrosodimethylamine in the diet. In contrast, the risk posed by the in-vivo nitrosation of primary and secondary amines is probably negligible. The risk contributed by amides (including protein), guanidines and primary amino acids is intermediate between these two extremes. (NLM)

GENOTOXICITY AND REPRODUCTIVE EFFECTS.... includes development and reproductive effects; embryo and fetal effects, fertility, exposure during pregnancy, teratogenicity, mutagenicity;genetics and carcinogenesis; and neoplasia.

Principles and problems in assessing prenatal toxicity

Neubert D.; Chahoud I.; Platzek T.; Meister R.

Institut fur Toxikologie und Embryopharmakologie, Freie Universitat Berlin, D-1000 Berlin 33
GERMANY, WEST

ARCH. TOXICOL. (GERMANY, WEST) ,1987, 60/1-3 (238-245), Coden: ARTOD

Languages: ENGLISH

(1) The terminology to be used in reproductive (or in prenatal) toxicology has to be in accord with other fields and principles of

toxicology; the reasons are briefly discussed. In addition it is essential to assess prenatal toxicity in comparison to adult (maternal) toxicity. (2) Since pharmacokinetics in laboratory animals (e.g. rodents) usually differ considerably from that in man, this fact has to be considered when planning and evaluating studies on prenatal toxicity. Up till now this aspect has seldom been taken into account. (3) A special problem in prenatal toxicity is the inter- and intralitter variability of the toxic manifestation (especially in polytocal animals). This problem has to be recognized by the investigators and means of dealing with it have to be developed. (4) Like all other toxic effects, embryo-/fetotoxic manifestations occur dose dependently. Little information is available in the literature on clean dose-response-curves for teratogenic effects. Some data from our laboratory are presented. (5) Risk assessment of teratogenic effects up till now represents a major problem. While qualitative risk assessment for man on the basis of animal data is possible, quantitative extrapolation from such data to the situation possibly existing in man is still difficult, because basic principles and strategies are largely lacking (e.g. may a 'threshold' be assumed or not?). The results of some activities towards this goal are presented from our laboratory. (NLM)

NEUROTOXICITY

Neurotoxicology in regulation and risk assessment
Reiter LW
Dev Pharmacol Ther 1987;10(5):354-68
It is well recognized that a wide variety of chemicals exert toxic effects on the structure and function of the nervous system. Regulatory agencies, charged with the protection of human health from toxicant exposures, should therefore consider neurotoxicological evaluations in the risk assessment process. Over the last decade, several expert panels have recommended testing schemes for evaluating neurobehavioral toxicity. In general, these panels have recommended behavioral measures performed in tandem with neuropathological evaluations. In keeping with these recommendations, the Environmental Protection Agency has developed seven neurotoxicity test guidelines for use in evaluating new and existing chemicals. Further refinement and extension of these test guidelines will flow from a better understanding of the cellular/molecular events which underly neurotoxicant-induced functional alterations.
REVIEW ARTICLE: 17 REFS. (NLM)

CHEMICAL SPECIFIC RISK ASSESSMENT

ALACHLOR

Alachlor: health advisory.
Marcus WL;Grilli S; Lutz WK; Parodi S
Toxicol Ind Health 1987 Sep;3(3):383-96(NLM)

ASBESTOS

Damages for an increased risk of developing cancer caused by asbestos exposure are only recoverable if it is more likely than not that cancer will develop. (case note)
Ebert, Robert T., Jr.
Missouri Law Review 51 n3 847-864 Summ, 1986
CODEN: MLWRDZ
ARTICLE TYPE: case note
GEOGRAPHIC CODE: NNUS
JURISDICTION: United States
CASE: Gideon v. Johns-Manville Sales Corp. 761 F.2d 1129 (5th Cir. 1985)
DESCRIPTORS: Industrial safety--cases; Asbestosis--cases; Risk assessment --cases
(LEGAL RESOURCE INDEX)

BENZENE

Possible implications from results of animal studies in human risk estimations for benzene: nonlinear dose-response relationship due to saturation of metabolism.
Grilli S; Lutz WK; Parodi S
Centro Interuniversitario per la Ricerca sul Cancro and Istituto di Cancerologia, Universita di Bologna, Italy.
J Cancer Res Clin Oncol (GERMANY, WEST) 1987, 113 (4) p349-58, ISSN 0171-5216 Journal Code: HL5
Languages: ENGLISH
To date, all risk assessment studies on benzene have been based almost exclusively on epidemiological data. We have attempted a more integrated and quantitative evaluation of carcinogenic risk for humans, trying to utilize, in addition to the epidemiological data, all data available, specifically data on metabolism, genotoxicity, and carcinogenicity in small rodents. An integrated evaluation of the globality of the available data seems to suggest a progressive saturation of metabolic capacity both for man and rodents between 10 and 100 ppm. The most susceptible target cells seem to be different in humans (predominant induction of myelogenous leukemia) and small rodents (induction of a wide variety of tumors). Nevertheless, both epidemiological and experimental carcinogenicity data tend to indicate a flattening of the response for the highest dosages, again suggesting a general saturation of mechanisms of metabolic activation, extended to different target tissues. From a quantitative point

of view, the data suggest a carcinogenic potency at 10 ppm two to three times higher than that computable by a linear extrapolation from data in the 100 ppm range. These observations are in accord with the recent proposal of the European Economic Community of reducing benzene time-weighted average occupational levels from 10 to 5 ppm. (NLM)

BYCOGUARD

Safety Evaluation and Risk Assessment - Bycoguard MP-4S

Leimgruber, R.

Stiftelsen foer Vaermeteknisk Forskning, Stockholm (Sweden).

Corp. Source Codes: 100873000; 5985100

Report No.: SVF-194

Jan 85 26p

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NTIS Prices: PC A03/MF A01 Journal Announcement: GRAI8711; NSA1200

Country of Publication: Sweden

The inhibitor Bycoguard MP4S has been investigated concerning its toxicological and ecotoxicological properties. The investigation was performed at the Research and Consulting Company AG (RCC), Basel, Switzerland. In all, the internationally standardized tests have been used and reported in detail in ten reports. Results were evaluated concerning the risks when using the inhibitor for corrosion protection in the intercooler systems of power plants. Special attention was paid to safety at work and to effects on the environment. Bycoguard MP4S was compared with hydrazine and chromate as it is intended to replace them. The results show that Bycoguard MP4S has a low immediate toxicity to man and to the environment. Compared with hydrazine and chromate, no or very low toxicity was demonstrated. (ERA citation 12:005377) (NTIS)

CYTOCHROME P-450

7-Ethoxyresorufin-O-deethylase activity in human hair roots: a potential marker for toxifying species of cytochrome P-450 isozymes.

Merk HF; Mukhtar H; Schutte B; Kaufmann I; Das M; Bickers DR

Department of Dermatology, University of Cologne, Koeln, West Germany.

Biochem Biophys Res Commun (UNITED STATES) Oct 29 1987, 148 (2) p755-61, ISSN 0006-291X Journal Code: 9Y8

Contract/Grant No.: ES 1900; CA 38028; AM 34368

Languages: ENGLISH

Assay systems for the evaluation of carcinogen interaction with human tissues are essential for assessing cancer risk. Human hair roots (HHR) are a readily obtainable epithelial tissue source that have been employed for investigating inherited enzyme activities. In this study HHR were found to possess cytochrome P-450-dependent 7-ethoxyresorufin-O-deethylase (ERD) activity which measures cytochrome P-450 isoenzymes that are highly specific (in the order of greater than 95%) markers for the metabolic

activation of many environmental carcinogenic substances such as the polycyclic aromatic hydrocarbons (PAHs). Topical application of PAHs (in liquor carbonis detergens) to the scalp of human volunteers was found to enhance the activity of this enzyme in freshly plucked hair roots. Oral and topical administration of ketoconazole to the same subjects resulted in an appreciable (up to 73%) inhibition of detectable enzyme activity. Our data suggest that measurement of ERD in HHR may be a useful marker for the study of toxifying species of cytochrome P-450 isozymes in human populations.(NLM)

DIOXIN

CALCULATION OF 2,3,7,9-TCDD EQUIVALENT CONCENTRATIONS OF COMPLEX ENVIRONMENTAL CONTAMINANT MIXTURES,

EADON GEORGE ; KAMINSKY LAURENCE ; SILKWORTH JAY ; ALDOUS KENNETH ; HILKER DAVID ; O'KEEFE PATRICK ; SMITH ROBERT

NEW YORK STATE DEPT HEALTH,

ENV HEALTH PERSPECTIVES, DEC 86, V70, P221(7)

JOURNAL ARTICLE SUFFICIENT TOXICOLOGICAL DATA ARE AVAILABLE TO PERMIT USE OF CONVENTIONAL RISK ASSESSMENT TECHNIQUES TO ESTIMATED HAZARDS ASSOCIATED WITH HUMAN EXPOSURE TO 2,3,7,8-TCDD. HOWEVER, MANY REAL-WORLD EXPOSURES INVOLVE COMPLEX MIXTURES OF DIBENZODIOXINS, DIBENZOFURANS, AND RELATED COMPOUNDS. A NOVEL APPROACH TO RISK ASSESSMENT WHICH USES EXISTING LITERATURE DATA AND ANALYTICAL RESULTS TO CALCULATE THE TCDD EQUIVALENT CONCENTRATION OF A MIXTURE IN ORDER TO PREDICT ITS BIOLOGICAL POTENCY RELATIVE TO 2,3,7,8-TCDD ITSELF IS ADVANCED. PREVIOUSLY PUBLISHED IN VIVO ACUTE AND SUBCHRONIC STUDIES AND SOME RECENTLY DOCUMENTED ANALYTICAL CHEMISTRY DATA ARE INTEGRATED TO CLARIFY THE UTILITY OF THIS APPROACH. (36 REFERENCES, 4 TABLES) (ENVIROLINE)

EXPOSURE AND RISK ASSESSMENT OF DIOXIN IN BLEACHED KRAFT PAPER PRODUCTS,

EPA DRAFT REPORT 52967-02, JUN 25, 87 (67)

FED GOVT REPORT THE STUDY EVALUATES AND QUANTIFIES EXPOSURES AND RISKS TO HEALTH WHICH MAY OCCUR THROUGH THE USE OF BLEACHED KRAFT PAPER PRODUCTS THAT MAY CONTAIN DIOXIN. RESULTS IMPLY THAT UNDER CERTAIN CIRCUMSTANCES, BLEACHED KRAFT PAPER PRODUCT USERS MAY BE EXPOSED TO DIOXIN AND WILL HAVE A CALCUABLE LIFETIME RISK OF CANCER. ALTHOUGH THE RISKS ARE LOW, THEY ARE DEPENDENT ON THE INTENSITY OF USE OF THE PRODUCTS OR THE ASSUMPTION OF THE EXPOSURE SCENARIOS. (29 REFERENCES, 8 TABLES) (ENVIROLINE)

Health-risk estimates for 2,3,7,8-tetrachloro-dibenzodioxin: a overview.

Fishbein L

Toxicol Ind Health 1987 Mar;3(1):91-134

As has been abundantly noted by many investigators, the paucity of definitive knowledge of metabolism, pharmacokinetics and pathogenesis of the chlorinated dioxins, principally 2,3,7,8-TCDD, in human populations continues to severely limit

our ability to evaluate the scope of the chronic and delayed effects of exposure to these agents. The marked qualitative and quantitative differences in the response of animals to TCDD plus the inability to validate a number of the critical assumptions and mathematical models relative to risk assessment make the extrapolation of data from intact animals to man particularly uncertain. Hence, it is vital to vigorously pursue the elaboration of the mechanism of action of TCDD at the molecular level. This should greatly contribute to our fundamental understanding of this agent and the potential danger that it may pose for man. (NLM)

ETHYLENE OXIDE

Risk assessment and oncodynamics of ethylene oxide as related to occupational exposure.
Beliles RP; Parker JC
Toxicol Ind Health 1987 Sep;3(3):371-82
Two rat inhalation bioassays have been integrated into the risk assessment on the carcinogenicity of ethylene oxide (EO). The carcinogenic findings as well as relevant metabolism and pharmacokinetic data are reviewed. Brain tumors were selected as the endpoint for the assessment of risk because of the indication that adverse effects on the nervous system, related to EO exposure, were consistent across species. Two methods, time-exposure concentration product and area under the plasma concentration-time curve (AUC) are used as a basis for calculating effective dose. Scaling of the dose to man from both rat and dog is explored based on pharmacokinetic studies. Two different mathematical risk extrapolation models, the probit and the multi-stage, are used to estimate the cancer risk for daily exposures to EO of 1.8 microgram/liter over a working lifetime. The use of AUC as a basis for dose from a daily exposure of 1.8 microgram/liter over a working lifetime gives the higher risk rates (90-142/10,000 workers). The implication of the simulated dose using plasma concentrations versus the time-concentration product approach is discussed in relation to threshold effects. (NLM)

FORMALDEHYDE

Health Risks from Indoor Formaldehyde Exposures in Northwest Weatherized Residences
Mellinger, P. J. ; Sever, L. E.
Battelle Pacific Northwest Labs., Richland, WA.
Corp. Source Codes: 048335000; 9512268
Sponsor: Department of Energy, Washington, DC.
Report No.: PNL-6058
Oct 86 28p

NTIS Prices: PC A03/MF A01 Journal Announcement: GRAI8710; NSA1200
Country of Publication: United States
Contract No.: AC06-76RL01830

Conflicting opinions on the potential hazards associated with formaldehyde exposure triggered a national workshop to address the toxicological questions concerning the health effects of formaldehyde. Since quantitative human data are not available to derive a dose-response curve for formaldehyde risk assessment, nonhuman data are used. In the case of formaldehyde, data from animals exposed to high concentrations are used to estimate human risk at much lower concentrations. This study presents the several steps that make up a risk assessment and examines any additional data that might alter significantly the risk estimates presented in the 1984 EIS. Rat inhalation chronic bioassay data from a study sponsored by the Chemical Industry Institute of Toxicology (CIIT) have been used to develop a risk equation that was subsequently used by BPA in its EIS. The CIIT data base remains the only acceptable animal data that can support the estimation of a dose-response curve. The development of mathematical models continues with a great deal of energy, and the use of different models is largely responsible for the great variability of the formaldehyde risk estimates. While one can calculate different values for carcinogenic risk associated with formaldehyde exposure than were presented earlier in the BPA EIS, they are not likely to be any better. (ERA citation 12:005644)(NTIS)

Risk assessment of laboratory rats and mice chronically exposed to formaldehyde vapors.

Brown KG

Risk Anal (UNITED STATES) Sep 1985, 5 (3) p171-80, ISSN 0272-4332

Journal Code: RIA

Experimental data from the Chemical Industry Institute of Toxicology (CIIT) are used to estimate the risk of squamous cell carcinoma of the nasal cavity in Fischer 344 (F344) rats over a range of ambient air concentrations of formaldehyde that includes current exposure guidelines for the workplace and home. These values are presented as a best estimate envelope obtained from five mathematical dose-response formulation. The response of Sprague-Dawley (SD) rats dosed at 15 ppm in a separate study at New York University is consistent with the predicted lifetime response for F344 rats at a slightly lower concentration (13-14 ppm). A dose-related mortality effect beyond what is attributable to the occurrence of nasal carcinomas is found in F344 rats at all CIIT exposure levels (2, 6, and 15 ppm). There is no evidence of a mortality effect in B6C3F1 mice of the CIIT study, and data for SD rats of the NYU experiment are inconclusive. In the CIIT study, rats exposed to 15 ppm exhibited a high incidence of nasal cavity squamous cell carcinomas and polypoid adenomas. Polypoid adenomas were also observed with increased incidences at 2 ppm and 6 ppm. Statistical comparisons with matched controls, and the low historical rate of spontaneous occurrence both suggest that polypoid adenomas may be a risk to F344 rats at exposure levels below the current Occupational Safety and Health Administration (OSHA) standard of 3 ppm. Squamous cell carcinomas were observed in two mice exposed to 15 ppm. This finding may be biologically significant since this tumor is rare and has not been previously reported in 4932 untreated B6C3F1 mice from recent National Toxicology Program (NTP) feeding studies. (21 Refs.) (NLM)

HEXACHLOROBENZENE

Environmental health risk assessment: hexachlorobenzene.
Krewski D; Colin D; Villeneuve D
IARC Sci Publ 1986;(77):621-8
The process of environmental health risk assessment may be described as a series of distinct stages, ranging from hazard identification and risk estimation to the selection and implementation of an appropriate risk management strategy. An important step in this process is the estimation of health risks at low levels of exposure. The toxicological and epidemiological data base on which such estimates are based are reviewed in the case of hexachlorobenzene (HCB), a persistent organochlorine pesticide, along with data on human exposure. This information is used to assess the potential human health risks attributable to HCB.
REVIEW ARTICLE: 49 REFS. (NLM)

Hexachlorobenzene fate-modelling for risk assessment.
Eschenroeder A
IARC Sci Publ 1986;(77):39-44
Exposure assessments are needed for managing risks posed by releases of hexachlorobenzene (HCB) in the environment. This paper shows how mathematical models are used to trace the movement of HCB and of materials which may carry it through the environment. These models can be used to assess the benefits of controls on the source of the releases in terms of reduced human exposures. Examples are given for spills on soil, atmospheric transport of combustion products, aqueous fate of material in soil and overall environmental partitioning. These examples are designed both to demonstrate available methods and to give insights into probable pathways.(NLM)

A risk analysis of hexachlorobenzene-related reproductive outcomes.
Siegel-Scott C; Johnson AE
US Environmental Protection Agency, Office of Toxic Substances, Washington, DC 20460.
IARC Sci Publ (FRANCE) 1986, (77) p629-34, ISSN 0300-5038
Journal Code: GKU
Languages: ENGLISH
Hexachlorobenzene (HCB) has been shown to produce reproductive effects in man and animals. The risks associated with hexachlorobenzene exposure have been determined for a litter using data from a feeding study by Kitchin et al. (1982). The total amount and the concentration of HCB in the litter has been estimated from a pharmacokinetic model. This estimate is consistent with the works of Kitchin et al. (1982), Courtney and Andrews (1985), and others which demonstrate that a large amount of HCB is transferred to the litter, and this quantity increases as a function of the number of

lactating days. The transfer of large quantities of HCB caused a significant increase in the number of litters with greater than or equal to 10% mortality when total HCB in the litter was 29-57 mg, equivalent to a concentration of 220-310 micrograms/g. The pharmacokinetic model proved useful in estimating the total effective dose and concentration of HCB in the litter via the dam's experimental dose. The model was also able to calculate the equivalent human exposure, in order to compare it with actual HCB levels from human monitoring data. (NLM)

LINDANE

Lindane: Position Document No. 2/3
Environmental Protection Agency, Washington, DC. Office of Pesticide Programs.
Corp. Source Codes: 031287124
Report No.: EPA/540/9-87/153
Jun 80 194p
See also PB80-213861, and PB87-165098. Portions of this document are not fully legible.
Languages: English
NTIS Prices: PC A09/MF A01 Journal Announcement: GRAI8711
Country of Publication: United States
The Position Document addresses the risks and benefits of pesticide products containing the subject active ingredient. The Agency has determined that the use of products containing the subject active ingredient may meet or exceed a risk criterion described in 40 CFR Part 154. Potential hazards will be examined further to determine the nature and extent of the risk, and considering the benefits of the subject active ingredient, whether such risks cause unreasonable adverse effects on the environment. (NTIS)

Lindane: Position Document 4
Environmental Protection Agency, Washington, DC.
Corp. Source Codes: 031287000
Report No.: EPA/540/9-87/154
Oct 83 161p
See also PB87-165080. Portions of this document are not fully legible.
Languages: English
NTIS Prices: PC A08/MF A01 Journal Announcement: GRAI8711
Country of Publication: United States
The Position Document addresses the risks and benefits of pesticide products containing the subject active ingredient. The Agency has determined that the use of products containing the subject active ingredient may meet or exceed a risk criterion described in 40 CFR Part 154. Potential hazards will be examined further to determine the nature and extent of the risk, and considering the benefits of the subject active ingredient, whether such risks cause unreasonable adverse effects on the environment. (NTIS)

OZONE

Hazard Assessment Using an Integrated Physiologically-Based Dosimetry Modeling Approach: Ozone

Miller, F. J. ; Overton, J. H. ; Smolko, E. D. ; Menzel, D. B. ; Graham, R. C.

Health Effects Research Lab., Cincinnati, OH.

Corp. Source Codes: 057052000

Sponsor: Duke Univ. Medical Center, Durham, NC.; Northrop Services, Inc., Research Triangle Park, NC.

Report No.: EPA/600/D-87/040

Jan 87 31p

Prepared in cooperation with Duke Univ. Medical Center, Durham, NC., and Northrop Services, Inc., Research Triangle Park, NC.

Languages: English

NTIS Prices: PC A03/MF A01 Journal Announcement: GRAI8709

Country of Publication: United States

A physiologically-based dosimetry modeling approach can provide a framework for integrating various components of hazard assessments to obtain interspecies dose-response curves as part of the risk assessment process. The methodology presented for developing dose-response curves is illustrated within the context of the inhalation toxicology of a ubiquitous air pollutant, ozone. Major components of the approach are discussed, including a data-based management system, the Critical Toxicity Reference System, and a physiological based dosimetry model for ozone absorption in the lower respiratory tract of mammals. Features and characteristics of the two components are discussed. When the ozone dosimetry modeling approach is sufficiently developed, it can provide improved estimates for dose-response relationships in experimental animals, leading to improved estimates of human health risks. (NTIS)

RADIUM

Risk Assessment of Exposure to Radium and Fluoride in Illinois Public Water Supplies

Hallenbeck, W. H.

Illinois Univ. at Chicago Circle.

Corp. Source Codes: 010384000

Sponsor: Illinois Dept. of Energy and Natural Resources, Springfield. Energy and Environmental Affairs Div.

Report No.: IL/ENR/RE/EA-86/14

Dec 86 86p

Sponsored by Illinois Dept. of Energy and Natural Resources, Springfield. Energy and Environmental Affairs Div.

Languages: English

NTIS Prices: PC A05/MF A01 Journal Announcement: GRAI8713

Country of Publication: United States

In June of 1985, the Illinois Environmental Protection Agency petitioned the Illinois Pollution Control Board to suspend the restricted status of certain communities until January 1, 1989. The effect of this proposal

would be to raise the Maximum Allowable Concentrations (MAC) of fluoride from 1.8-2.0 mg/l to 4 mg/l, and combined radium from 5 to 20 pCi/l. The overall objective of the report was to assess the potential health impacts of these proposed changes in MACs. Pertinent literature and IPCB testimony were evaluated, health impact models were constructed, and individual risks and/or expected cases were calculated for each affected community. There are 107 communities (680,912 people) in Illinois whose water supplies exceed the present Illinois standard of 5 pCi/l of combined radium. There are 46 communities (53,840 people) in Illinois whose water supplies exceed the present Illinois standard of 1.8 to 2.0 mg/l of fluoride. (NLM)

HAZARDOUS WASTE

Comprehensive Environmental Assessment and Response Program Confirmation and Evaluation Activities

Martz, M. K. ; Rea, K. H. ; Vocke, R. W. ; Ferenbaugh, R. W.
Los Alamos National Lab., NM. Environmental Surveillance Group.
Corp. Source Codes: 072735011; 9508221
Sponsor: Department of Energy, Washington, DC.
Report No.: LA-UR-86-2892; CONF-861227-1
1986 11p
Superfund '86, Washington, DC, USA, 1 Dec 1986.
Languages: English Document Type: Conference proceeding
NTIS Prices: PC A02/MF A01 Journal Announcement: GRAI8709; NSA1200
Country of Publication: United States
Contract No.: W-7405-ENG-36

The US Department of Energy Albuquerque Operations Office (DOE-AL) initiated the Comprehensive Environmental Assessment and Response Program (CEARP) to identify, evaluate, and conduct remedial actions at hazardous waste disposal and contamination sites on the eight nuclear weapons development and production installations under its jurisdiction. The CEARP is being implemented in five phases (Phase 1 - Installation Assessment, Phase 2 - Confirmation, Phase 3 - Technological Assessment, Phase 4 - Remedial Action, and Phase 5 - Compliance and Verification). During Phase 1, regulatory compliance was evaluated and disposal/contamination sites were identified. Phase 2 provides the field data for site characterization, risk assessment, determination of need for corrective action, and evaluation of possible remedial actions at hazardous waste sites. Phase 2 is being conducted in two stages (monitoring plan development/reconnaissance sampling and site characterization/remedial investigation). Problem sites across the DOE-AL complex were prioritized for site characterization and CEARP Phase 2 activities have been initiated. (ERA citation 12:000249) (NTIS)

CONTAMINATED LAND: THE SCALE OF THE PROBLEMS IN EUROPE (PART 1),
GIESELER GERNOT
DORNIER SYSTEM GMBH, W GERMANY,
EEC INTL POLLUTION ABATEMENT CONF, BIRMINGHAM, UK, APR 6-8, 87, PG1(29)
CONF PAPER THE EXTENT OF LAND CONTAMINATION IN WESTERN EUROPE BY HAZARDOUS OR INDUSTRIAL WASTES IS CONSIDERED. VARIOUS NATIONAL APPROACHES FOR ESTABLISHING WASTE DISPOSAL AND CLEANUP APPROACHES ARE CONTRASTED, AS ARE APPLICABLE NATIONAL STATUTES AND MANAGEMENT ACTIVITIES. TOPICS COVERED INCLUDE GROUND SURVEY TECHNIQUES FOR SOIL POLLUTION PROBLEMS, LAND RECLAMATION AND REMEDIAL MEASURES, AND DISPOSAL ROUTES FOR HAZARDOUS WASTES. RECOMMENDATIONS FOR ENHANCING WASTE AND WASTE SITE IDENTIFICATION AND RISK ASSESSMENT OPERATIONS ARE APPENDED. (9 TABLES)
(ENVIROLINE)

Evaluation of Methods to Compare Consequences from Hazardous Materials Transportation Accidents

Rhoads, R. E. ; Franklin, A. L. ; Lavender, J. C.
Battelle Pacific Northwest Labs., Richland, WA.
Corp. Source Codes: 048335000; 9512268

Sponsor: Department of Energy, Washington, DC.
Report No.: SAND-86-7117; TTC-0674
Oct 86 118p
Portions of this document are illegible in microfiche products. Original copy available until stock is exhausted.
Languages: English
NTIS Prices: PC A06/MF A01 Journal Announcement: GRAI8709; NSA1200
Country of Publication: United States
Contract No.: AC04-76DP00789
This report presents the results of a project to develop a framework for making meaningful comparisons of the consequences from transportation accidents involving hazardous materials. The project was conducted in two phases. In Phase I, methods that could potentially be used to develop the consequence comparisons for hazardous material transportation accidents were identified and reviewed. Potential improvements were identified and an evaluation of the improved methods was performed. Based on this evaluation, several methods were selected for detailed evaluation in Phase II of the project. The methods selected were location-dependent scenarios, figure of merit and risk assessment. This evaluation included application of the methods to a sample problem which compares the consequences of four representative hazardous materials - chlorine, propane, spent nuclear fuel and class A explosives. These materials were selected because they represented a broad class of hazardous material properties and consequence mechanisms. The sample case aplication relied extensively on consequence calculations performed in previous transportation risk assessment studies. A consultant was employed to assist in developing consequence models for explosives. The results of the detailed evaluation of the three consequence comparison methods indicates that methods are available to perform technically defensible comparisons of the consequences from a wide variety of hazardous materials. Location-dependent scenario and risk assessment methods are available now and the figure of merit method could be developed with additional effort. All of the methods require substantial effort to implement. Methods that would require substantially less effort were identified in the preliminary evaluation, but questions of technical accuracy preclude their application on a scale. These methods may have application to specific cases, however. (ERA citation 12:000166)
(NTIS)

Factors for Assessment of Human Health Risk Associated with Remedial Action at Hazardous Waste Sites

Stephenson, D. E. ; King, C. M. ; Looney, B. B. ; Holmes, W. G. ; Gordon, D. E.
Du Pont de Nemours (E.I.) and Co., Aiken, SC. Savannah River Lab.
Corp. Source Codes: 009966002; 9520932
Sponsor: Department of Energy, Washington, DC.
Report No.: DP-MS-85-129; CONF-851235-2
1985 17p
American Geophysical Union fall meeting, San Francisco, CA, USA, 9 Dec 1985.
Languages: English Document Type: Conference proceeding
NTIS Prices: PC A02/MF A01 Journal Announcement: GRAI8709; NSA1200
Country of Publication: United States
Contract No.: AC09-76SR00001
A risk assessment strategy that is cost effective and minimized human

health risks was developed for closure of hazardous waste sites at the Savannah River Plant. The strategy consists of (1) site characterization, (2) contaminant transport modeling, and (3) determination of relative merits of alternative remedial actions according to the degree of health protection they provide. (ERA citation 12:001725) (NTIS)

Issues on health risk assessment at hazardous waste sites and resource recovery facilities in Region II.

Cam V

United States Environmental Protection Agency, Region II, Air and Waste Management Division, New York, NY 10278.

Toxicol Ind Health (UNITED STATES) Dec 1985, 1 (4) p271-6, ISSN 0748-2337 Journal Code: VWS

Languages: ENGLISH

This paper examines the issues involved in health risk assessments at hazardous waste sites and resource recovery facilities in Region II and emphasizes the programmatic aspects of the problem and the integration of risk assessment into the permitting process for these facilities. Suggestions for the R&D agenda and policy needs to support a risk assessment strategy in this area are also discussed. (NLM)

Liner Location Risk and Cost Analysis Model. Appendices

(Draft rept)

Pope-Reid Associates, Inc., St. Paul, MN.

Corp. Source Codes: 085816000

Sponsor: Environmental Protection Agency, Washington, DC. Office of Solid Waste.

Jan 85 414p

Sponsored by Environmental Protection Agency, Washington, DC. Office of Solid Waste.

Languages: English

NTIS Prices: PC A18/MF A01 Journal Announcement: GRAI8712

Country of Publication: United States

Contract No.: EPA-68-01-6621

The volume contains the appendices to the Liner Location Risk Analysis Model Draft Report. Contents: Failure and release submodel; Subsurface transport submodel; Exposure submodel; Hazard submodel; Cost model; Waste and constituent characterization; Structure and function of the liner-location risk analysis model. (NTIS)

PROBABILISTIC RISK ANALYSIS IN WASTE DISPOSAL: AN INTEGRATED APPROACH.

BAMBERG SAMUEL A. ; VAN ZYL DIRK

AND ; (COLORADO STATE UNIV),

COLORADO STATE UNIV (A.A. BALKEMA) 8TH GEOHYDRO WASTE MGT SYM, FORT COLLINS, FEB 5-7, 86, P399(8)

CONF PAPER AN INTEGRATED APPROACH AND METHODOLOGY IS DELINEATED FOR RISK ANALYSIS OF WASTE DISPOSAL. THE METHOD EMPLOYS RISK ANALYSIS TECHNIQUES APPLYING PROBABILITY THEORY, WHICH CONSIDERS VARIABILITY AND

UNCERTAINTY OF PARAMETERS. THE RESULTS OF A PROBABILISTIC ANALYSIS ARE EXPRESSED AS A RELIABILITY OR PROBABILITY OF FAILURE LEADING TO A RELEASE OF POLLUTANTS AND RESULTING IN AN ENVIRONMENTAL CONSEQUENCE. THE STEPS IN THE ASSESSMENT ARE TO DEVELOP INFORMATION AND DATA SETS, IDENTIFY HAZARDS, AND THEN PERFORM PROBABILISTIC RISK ASSESSMENT WHICH CAN BE USED TO IDENTIFY DESIGN ALTERNATIVES. (ENVIROLINE)

Projected Environmental Impacts of Transportation of Radioactive Material to the First United States Repository Site. An Overview

Cashwell, J. W. ; Neuhauser, K. S. ; Reardon, P. C.

Sandia National Labs., Albuquerque, NM.

Corp. Source Codes: 068123000; 9511100

Sponsor: Pacific Northwest Lab., Richland, WA.; Department of Energy, Washington, DC.

Report No.: SAND-86-2186C; TTC-0684; CONF--860930--2

1986 5p

Annual information meeting of the Canadian Nuclear Fuel Waste Management Program, Winnipeg, Canada, 7 Sep 1986.

Portions of this document are illegible in microfiche products.

Languages: English

NTIS Prices: PC A02/MF A01 Journal Announcement: GRAI8709; NSA1200

Country of Publication: United States

Contract No.: AC04-76DP00789

The relative national environmental impacts of transporting spent fuel and other nuclear wastes to each of nine candidate repository sites in the United States were analyzed. Two scenarios were examined for each repository: (1) shipment of 5-year-old spent fuel and defense high-level waste (DHLW) directly from their points of origin to a repository (Reference Case); (2) shipment of 5 year old spent fuel to a Monitored Retrievable Storage (MRS) facility and shipment (by dedicated rail) of 10 year old consolidated spent fuel from the MRS to a repository. Transport by either all truck or all rail from the points of origin were analyzed as bounding cases. The computational system used to analyze these impacts included the WASTES II logistics code and the RADTRAN III risk analysis code. The radiological risks for the Reference Case increased as the total shipment miles to a repository increased for truck; the risks also increased with mileage for rail but at a lower rate. For the MRS scenario the differences between repository sites were less pronounced for both modal options because of the reduction in total shipment miles possible with the large dedicated rail casks. All the risks reported are small in comparison to ''natural background.'' 15 refs., 6 tabs. (ERA citation 12:000252) (NTIS)

Research Needs Workshop: Hazardous Wastes Treatment and Disposal

Parkin, G. F. ; Pipes, W. O. ; Koerner, R. M.

Drexel Univ., Philadelphia, PA.

Corp. Source Codes: 028824000

Sponsor: National Science Foundation, Washington, DC. Directorate for Engineering.

Report No.: NSF/ENG-86042

1986 123p

Proceedings of a workshop held at Drexel University, Philadelphia, PA., June 9-10, 1986. Sponsored by National Science Foundation, Washington, DC. Directorate for Engineering.

Languages: English

NTIS Prices: PC A06/MF A01 Journal Announcement: GRAI8711

Country of Publication: United States

Contract No.: NSF-CDR84-13832

The specific objectives of the workshop were: (1) to identify nationally recognized experts conducting research on hazardous waste treatment and disposal; (2) to summarize the present status of the information available in the various areas of hazardous waste research; (3) to identify the current needs for basic research which can contribute to long-term solutions for the wide variety of hazardous waste problems; (4) to bring together this group of experts to generate a reasonably well-focused and uniform position on the subject; (5) to recommend areas of research requiring NSF funding; and (6) to disseminate the information generated to the technical community. Eight areas of research were selected for study by the panels of the workshop; (1) source identification and benefication; (2) hazard identification and evaluation; (3) incineration; (4) physical treatment processes; (5) chemical and biological treatment processes; (6) land disposal; (7) monitoring, restoring, and protecting groundwater quality; and (8) risk assessment. Position papers, conclusions, recommendations, the workshop format, and a list of participants are included. (NTIS)

A RISK ASSESSMENT METHODOLOGY FOR HAZARDOUS WASTE LANDFILLS,

EISENBEIS JOHN J. ; MONTGOMERY ROBERT H. ; SANDERS THOMAS S.

COLORADO STATE UNIV,

COLORADO STATE UNIV (A.A. BALKEMA) 8TH GEOHYDRO WASTE MGT SYM, FORT COLLINS, FEB 5-7, 86, P417(10)

CONF PAPER A RISK ASSESSMENT METHODOLOGY IS INTRODUCED FOR DESIGNING A HAZARDOUS WASTE LANDFILL. THE EIGHT-STEP PROCESS BEGINS WITH CHOOSING A MANAGEMENT OBJECTIVE AND DEFINING SYSTEM FAILURE. SYSTEM COMPONENTS AND INTERACTIONS ARE THEN DETERMINED, AND A FAULT TREE THAT DESCRIBES CONNECTIONS AMONG EVENTS IS CONSTRUCTED. PROBABILITIES ARE ASSIGNED TO EVENTS, AND THE PROBABILITY OF THE TOP EVENT IS COMPUTED. CONSEQUENCES ARE THEN ASSIGNED, RISK IS ESTIMATED, AND RESULTS ARE EVALUATED IN TERSM OF ACCEPTABLE RISK AND POSSIBLE RISK REDUCING MITIGATION EFFORTS. THE RESULTS ARE APPLIED TO THE DECISION MAKING PROCESS BY COMPARING THE AMOUNT OF COST AND RISK FOR DIFFERENT DESIGNS. (ENVIROLINE)

RISK ASSESSMENT; THE JIBBOOM JUNKYARD SUPERFUND SITE; THE OREGON, OHIO SITE,

CAMOUGIS GEORGE ; IRWIN LAURIE ; HOLMYARD PETER ; HELTMACH JOHN E. ; KENNING TODD ; YOST KARL

NEW ENGLAND RESEARCH INC, MA,

HAZARDOUS MATERIALS & WASTE MANAGEMENT, JAN-FEB 87, V5, N1, P10(9)

JOURNAL ARTICLE RISK ASSESSMENT IS A SEQUENTIALLY-LINKED, MULTI-STEP PROCESS WHICH PROVIDES KEY INPUTS TO MAKING DECISIONS ON WHAT TO DO WITH SUPERFUND SITES. A CHALLENGE FACED BY EPA AND WASTE MANAGERS IS TO AGREE ON

A RISK ASSESSMENT PROCEDURE WHICH CAN BE APPLIED WIDELY TO SITE ASSESSMENTS AND REMEDIAL ACTIONS AT CONTAMINATED SITES THROUGHOUT THE U.S. THE DECONTAMINATION PROGRAM SCHEDULED FOR THE JIBBOOM JUNKYARD, A HEAVY METAL-POLLUTED SUPERFUND SITE NEAR SACRAMENTO, CA, IS DETAILED. THE LARGEST SUPERFUND ON-SITE TREATMENT PROJECT EVER ATTEMPTED IS CONTINUING AT A SITE IN OREGON, OH. THE SCOPE OF WORK INVOLVES CHEMICALLY TREATING THE LIQUID WASTE PORTION OF A LAGOON ESTIMATED TO BE 18-25 MILLION GAL IN VOLUME. (1 DIAGRAM, 3 PHOTOS) (ENVIROLINE)

Transportation of Hazardous Materials in Arizona. Volume 1. Comprehensive Study Approach, Analyses and Findings

Pijawka, K. D. ; Radwan, A. E. ; Soesilo, J. A.

Arizona State Univ., Tempe.

Corp. Source Codes: 000950000

Sponsor: Federal Highway Administration, Phoenix, AZ. Arizona Div.; Arizona Dept. of Transportation, Phoenix.

Report No.: FHWA/AZ-86/223-1

Jan 86 175p

See also PB87-136750. Sponsored by Federal Highway Administration, Phoenix, AZ. Arizona Div., and Arizona Dept. of Transportation, Phoenix.

Languages: English

NTIS Prices: PC A08/MF A01 Journal Announcement: GRAI8708

Country of Publication: United States

The objective of the study was to assess the magnitude of hazardous materials shipments, load characteristics in terms of chemical type, volume Rand hazard class. These data were allocated to routes in Arizona. The analyses is a first step in understanding the hazardous materials transportation situation and will serve as a basis for risk assessment studies. A database management system was developed for data manipulation and retrieval by state agencies for program planning, risk evaluations and as a basis for risk evaluations. Several surveys were conducted to obtain the data. These included: (1) hazardous waste shipments for 1983 and 1984 compiled from RCRA manifests; (2) two one-week surveys of placarded trucks at Arizona's major ports of entry; (3) an intra-state survey at 9 state locations; (4) interviews with distributors of gasoline, acids and propane. (NTIS)

Transportation of Hazardous Materials in Arizona. Volume 2. Hazardous Materials Data Base Management System: Development and Programs

Pijawka, K. D. ; Radwan, A. E. ; Shieh, F. Y. ; Soesilo, J. A.

Arizona State Univ., Tempe.

Corp. Source Codes: 000950000

Sponsor: Federal Highway Administration, Phoenix, AZ. Arizona Div.; Arizona Dept. of Transportation, Phoenix.

Report No.: FHWA/AZ-86/223-2

Jan 86 80p

See also PB87-136743, and PB87-136768. Sponsored by Federal Highway Administration, Phoenix, AZ. Arizona Div., and Arizona Dept. of Transportation, Phoenix.

Languages: English

NTIS Prices: PC A05/MF A01 Journal Announcement: GRAI8708

Country of Publication: United States

The document describes the steps undertaken to develop the Data Base Management Systems (DBMS) for the transportation of hazardous materials and hazardous wastes in Arizona. It includes the selection of computer hardware and software, the design of the data base input and output form, the development of the necessary command procedures to produce statistical relationships, the step-by-step procedure to access and operate the DBMS, and, finally, the listing of command procedures. (NTIS)

Transportation of Hazardous Materials in Arizona. Volume 3. Executive Summary

Pijawka, K. D. ; Radwan, A. E. ; Soesilo, J. A.

Arizona State Univ., Tempe.

Corp. Source Codes: 000950000

Sponsor: Federal Highway Administration, Phoenix, AZ. Arizona Div.; Arizona Dept. of Transportation, Phoenix.

Report No.: FHWA/AZ-86/223-3

Jan 86 16p

See also PB87-136743. Sponsored by Federal Highway Administration, Phoenix, AZ. Arizona Div., and Arizona Dept. of Transportation, Phoenix.

Languages: English

NTIS Prices: PC A02/MF A01 Journal Announcement: GRAI8708

Country of Publication: United States

The objective of the study was to assess the magnitude of hazardous materials shipments, load characteristics in terms of chemical type, volume and hazard class. These data were allocated to routes in Arizona. The analyses is a first step in understanding the hazardous materials transportation situation and will serve as a basis for risk assessment studies. A data base management system was developed for data manipulation and retrieval by state agencies for program planning, risk evaluations and as a basis for risk evaluations. (NTIS)

RADIATION

1986 Annual Information Meeting (of the Environmental Sciences Division, Oak Ridge National Laboratory). Abstracts

Oak Ridge National Lab., TN.
Corp. Source Codes: 021310000; 4832000
Sponsor: Department of Energy, Washington, DC.
Report No.: ORNL/M-155; CONF-8605183-ABSTS.
1986 28p
Environmental Sciences Division annual information meeting, Oak Ridge, TN, USA, 7 May 1986.
Languages: English Document Type: Conference proceeding
NTIS Prices: PC A03/MF A01 Journal Announcement: GRAI8711; NSA1200
Country of Publication: United States
Contract No.: AC05-84OR21400

Abstracts are presented for the following papers: Geohydrological Research at the Y-12 Plant (C.S. Haase); Ecological Impacts of Waste Disposal Operations in Bear Creek Valley Near the Y-12 Plant (J.M. Loar); Finite Element Simulation of Subsurface Contaminant Transport: Logistic Difficulties in Handling Large Field Problems (G.T. Yeh); Dynamic Compaction of a Radioactive Waste Burial Trench (B.P. Spalding); Comparative Evaluation of Potential Sites for a High-Level Radioactive Waste Repository (E.D. Smith); Changing Priorities in Environmental Assessment and Environmental Compliance (R.M. Reed); Ecology, Ecotoxicology, and Ecological Risk Assessment (L.W. Barnthouse); Theory and Practice in Uncertainty Analysis from Ten Years of Practice (R.H. Gardner); Modeling Landscape Effects of Forest Decline (V.H. Dale); Soil Nitrogen and the Global Carbon Cycle (W.M. Post); Maximizing Wood Energy Production in Short-Rotation Plantations: Effect of Initial Spacing and Rotation Length (L.L. Wright); and Ecological Communities and Processes in Woodland Streams Exhibit Both Direct and Indirect Effects of Acidification. (ERA citation 12:008588) (NTIS)

Annual Meeting on Nuclear Technology 1982 (Held at Mannheim, Federal Republic of Germany on 4 May 1982). Technical Meeting: Possibilities and Effects of Serious Reactor Accidents

Deutsches Atomforum e.V., Bonn (Germany, F.R.).
Corp. Source Codes: 070499000; 2152000
Report No.: INIS-MF-10620; CONF-8205205-PT.2
1982 97p
In German. Meeting on nuclear technology, Mannheim, F.R. Germany, 4 May 1982.
Languages: German Document Type: Conference proceeding
Country of Publication: Germany, Federal Republic of

A critical examination of the forecast of a design basis accident, the view of the Sandia National Laboratory on the probability of a steam explosion after a core meltdown accident is comparison with WASH-1400, the possibilities of interactions with the containment structure and fission product release, as well as the influences for the assessment of risk in Germany taken from the analysis of core meltdown accidents are dealt with in these papers. (ERA citation 12:038922)(NTIS)

Assessment of Atmospherically-Released Radionuclides Using the Computerized Radiological Risk Investigation System

Nelson, C. B. ; Sjoreen, A. L. ; Miller, C. W. ; Baes, III, C. F.

Office of Radiation Programs, Washington, DC.

Corp. Source Codes: 038529000; 9500472

Sponsor: Oak Ridge National Lab., TN.; Department of Energy, Washington, DC.

Report No.: CONF-861165-4

1986 5p

Joint conference on applications of air pollution meteorology, Chapel Hill, NC, USA, 18 Nov 1986.

Languages: English Document Type: Conference proceeding

NTIS Prices: PC A02/MF A01 Journal Announcement: GRAI8711; NSA1200

Country of Publication: United States

Contract No.: AC05-84OR21400

For radionuclides, the standards are in terms of an annual dose, and the regulations require assurance that no member of the general public receives a dose in excess of that standard. Thus, spatial variations in the population around an emission source must be considered. Furthermore, for most chemical pollutants the standards are written in terms of an air concentration while for radionuclides other pathways of exposure, e.g., uptake of the airborne emissions by terrestrial food chains must also be considered. The remainder of this paper discusses the computer codes that make up the CRRIS and how they are used to perform an assessment of the health impacts on man of radionuclides released to the atmosphere. (ERA citation 12:005590) (NTIS)

ASSIGNED SHARES IN COMPENSATION FOR RADIATION-RELATED CANCERS; WHO NEEDS CAUSATION PROBABILITIES?; ASSIGNED SHARES AND COMBINED INSULTS; 'THE UNCERTAINTIES OF ASSIGNED SHARES TORT COMPENSATION: WHAT WE DON'T KNOW CAN HURT US,

LAGAKOS STEPEHN W. ; MOSTELLER FREDERICK ; ROSENBERG DAVID ; LAVE LESTER B. ; SEILER FRITZ ; COX LOUIS

HARVARD UNIV,

RISK ANALYSIS, 1986, V6, N3, P345(36)

JOURNAL ARTICLE AN NIH WORKING GROUP PREPARED RADIOEPIDEMIOLOGIC TABLES WHICH ESTIMATE THE LIKELIHOOD THAT CANCER VICTINS PREVIOUSLY EXPOSED TO A RADIATION DOSE DEVELOPED THEIR CANCER AS A RESULT OF THIS EXPOSURE. THE TABLES PROVIDE A SCIENTIFIC BASIS FOR DETERMINING VICTIM COMPENSATION, AND THEIR USE WOULD REPRESENT A MARKED DEPARTURE FROM THE CURRENT TORT SYSTEM FOR DECIDING COMPENSATION. AFTER PARTITIONING A POPULATION INTO REFERENCE SETS BASED ON AGE AT EXPOSURE AND OTHER DATA, AN ASSIGNED SHARE IS COMPUTED FOR EACH SET AND THEN ASSIGNED TO ALL OF ITS MEMBERS. THE ASSIGNED SHARE REPRESENTS THE FRACTION OF THE CANCER CASES IN THE REFERENCE SET THAT ARE ATTRIBUTED TO THE PADIATION DOSE. PROBLEMS AND UNCERTAINTIES INHERENT IN THIS APPROACH ARE IDENTIFIED, AND CRITIQUES OF THIS APPROACH TO COMPENSATION ARE APPENDED. (4 GRAPHS, 61 REFERENCES, 1 TABLE) (ENVIROLINE)

Epidemiological Studies of General Population Groups Exposed to Low-Level Radiation

Davies, J. M. ; Inskip, H.
Nuclear Energy Agency, Paris (France).
Corp. Source Codes: 064679000; 4796200
Report No.: INIS-XN-60
1986 48p
U.S. Sales Only.
Languages: English
NTIS Prices: PC A03/MF A01 Journal Announcement: GRAI8801; NSA1200
Country of Publication: Other

The exposure of man to radiation and the resulting risk of carcinogenesis continue to be of concern to the public. In this context, there is often a tendency to carry out epidemiological studies concerning the induction of cancer in radiation workers and members of the public which are not supported by a statistically valid data base or whose result are misinterpreted or misused. To assist national authorities in evaluating radiological risks, the Nuclear Energy Agency has sponsored a critical review of the methodologies for, and the limitations of, these epidemiological studies, and of the precautions to be adopted in interpreting their results. Prepared by two consultants, Dr. Joan M. Davies and Dr. Hazel Inskip, the review focuses on the problems encountered when carrying out epidemiological studies on groups of the general population exposed to radiation, and using their results for radiological protection purposes. The primary objective is to provide background material for national authorities who have responsibilities in the field of radiological protection, as well as to other persons interested in this subject. It is published under the responsibility of the Secretary General of the OECD, and does not necessarily reflect the views of Member Governments. (ERA citation 12:042236) (NTIS)

Estimated Risk from Exposure to Radon Decay Products in US Homes

Nero, A. V.
Lawrence Berkeley Lab., CA. Applied Science Div.
Corp. Source Codes: 086929008; 9505804
Sponsor: Department of Energy, Washington, DC.
Report No.: LBL-21642; CONF-8509332-1
May 86 19p
Workshop on exposure modeling and monitoring, Cambridge, MA, USA, 30 Sep 1985.
Languages: English Document Type: Conference proceeding
NTIS Prices: PC A02/MF A01 Journal Announcement: GRAI8709; NSA1200
Country of Publication: United States
Contract No.: AC03-76SF00098

Recent analyses now permit direct estimation of the risks of lung cancer from radon decay products in US homes. Analysis of data from indoor monitoring in single-family homes yields a tentative frequency distribution of annual-average sup 222 Rn concentrations averaging 55 Bq m sup -3 and having 2% of homes exceeding 300 Bq m sup -3 . Application of the results of occupational epidemiological studies, either directly or using recent advances in lung dosimetry, to indoor exposures suggests that the average

indoor concentration entails a lifetime risk of lung cancer of 0.3% or about 10% of the total risk of lung cancer. The risk to individuals occupying the homes with 300 Bq m sup -3 or more for their lifetimes is estimated to exceed 2%, with risks from the homes with thousands of Bq m sup -3 correspondingly higher, even exceeding the total risk of premature death due to cigarette smoking. The potential for such average and high-level risks in ordinary homes forces development of a new perspective on environmental exposures. (ERA citation 12:001994) (NTIS)

Bewertung ausgewaehlter epidemiologischer Studien an strahlenexponierten Kollektiven (Evaluation of Selected Epidemiological Studies on Collective Groups of Radiation Exposed Persons)

Kaul, A. ; Elsasser, U. ; Hinz, G. ; Kossel, F. ; Martignoni, K.

Bundesgesundheitsamt, Neuherberg (Germany, F.R.). Inst. fuer Strahlenhygiene.

Corp. Source Codes: 052715002

Report No.: ISH-51

Dec 84 60p

Text in German.

Languages: German Document Type: Bibliography

NTIS Prices: PC E09 Journal Announcement: GRAI8711

Country of Publication: Germany, Federal Republic of

An analysis of the literature indicated that further epidemiological studies of stochastic radiation effects are needed to validate and extend the presently known data on the extent of the risk induced by radiation. For this purpose and on account of the availability of dose values and results from medical examinations, the group of occupationally radiation-exposed persons is particularly suitable. Assessments as to the number of persons required for such a study indicate, however, that only such risk coefficients might be found that exceed by a factor 10 those presently assumed. Furthermore, a uniformly large exposure of several rem per year and person would have to occur over a period of two additional decades in order to statistically confirm an increased frequency of disease from radiation exposure. (Copyright (c) 1986 by FIZ. Citation no. 86:10122.) (NTIS)

Health and Environmental Consequences of the Chernobyl Nuclear Power Plant Accident

Goldman, M. ; Catlin, R. J. ; Anspaugh, L.

Committee on the Assessment of Health Consequences in Exposed Populations, Washington, DC. Interlaboratory Task Group on Health and Environmental Aspects of the Soviet Nuclear Accident.

Corp. Source Codes: 089961001; 9522690

Sponsor: Department of Energy, Washington, DC.

Report No.: DOE/ER-0332

Jun 87 307p

Portions of this document are illegible in microfiche products. Original copy available until stock is exhausted.

Languages: English

NTIS Prices: PC A14/MF A01 Journal Announcement: GRAI8801; NSA1200

Country of Publication: United States

An assessment of the impact of the Chernobyl accident on the Northern Hemisphere is presented in this report. It relies heavily on the USSR report presented to the International Atomic Energy Agency. There are gaps in present knowledge and, in some areas, uncertainties may never be completely resolved. What is clearly apparent at this time, however, is that on a large regional scale, the estimates of collective dose have a reasonable level of confidence. The associated potential health impacts have also been projected, together with a range of estimates. A brief description of the tragic consequences to the heroic firefighting and rescue personnel is also provided, and valuable insights regarding acute exposures are developed. Much early effort was expended on estimation of the source term, especially for radiocesium and radioiodine. Several independent analyses are presented that are in reasonable agreement. Atmospheric transport of the radioactive material and its subsequent deposition provide a documented ''umbrella'' of the distributions that form the basic integration of this assessment. The estimates of radiological doses to selected Northern Hemisphere populations were employed in developing an integrated risk assessment of potential latent health effects using the most current models, parameters and risk coefficients. The estimates presented include lower- and upper-bound values, as well as the "best " or most realistic ranges. While many scientists believe that minuscule increases in risks to large populations are impossible to prove, it is essential that the magnitude of these possible risks be presented, if only to put an upper limit on the situation. It must be emphasized that while these are ''potential'' health effects, the values presented represent our best current assessment of the health and environmental detriment caused by the Chernobyl accident. 72 refs., 37 figs., 91 tabs. (ERA citation 12:041928) (NTIS)

Radiation Protection Guidelines for Space Missions

Fry, R. J. M. ; Nachtwey, D. S.
Oak Ridge National Lab., TN.

Corp. Source Codes: 021310000; 4832000
Sponsor: National Aeronautics and Space Administration, Houston, TX. Lyndon B. Johnson Space Center.; Department of Energy, Washington, DC.
Report No.: CONF-861044-5
1986 17p
Hanford Life Sciences symposium: radiation protection-a look to the future - celebrating four decades of research at Hanford, Richland, WA, USA, 21 Oct 1986.
Languages: English Document Type: Conference proceeding
NTIS Prices: PC A02/MF A01 Journal Announcement: GRAI8712; NSA1200
Country of Publication: United States
Contract No.: AC05-84OR21400

The National Aeronautics and Space Administration's current radiation protection guidelines were recommended in 1970. The career limit was set at 400 rem. Today, using the same approach as in 1970, but with the current risk estimates, a considerably lower career limit would obtain. Also, there is considerably more information about the radiation environments that will be experienced in different missions than previously. Since 1970 women have joined their ranks. For these and other reasons it was considered necessary to reexamine the radiation protection guidelines. This task has been undertaken by the National Council on Radiation Protection and Measurements

Scientific Committee 75 (ICRP SC 75). Below the magnetosphere the radiation environment varies with altitude and inclination of the orbit. In outer space missions galactic cosmic rays, with the small but important heavy ion component, determine the radiation environment. The new recommendations for career dose limits, based on lifetime excess risk of cancer mortality, take into account age at first exposure and sex. The career limits range from 100 rem (1.0 Sv) for a 24 year old female to 400 rem (4.0 Sv) for a 55 year old male compared to the previous single limit of 400 rem (4.0 Sv). The career limit for the lens of the eye has been reduced from 600 rem (6.0 Sv) to 400 rem (4.0 Sv). 20 refs., 1 fig., 7 tabs. (ERA citation 12:010045) (NTIS)

SCIENCE AND TRANS-SCIENCE IN RADIATION RISK ASSESSMENT: CHILD CANCER AROUND THE NUCLEAR FUEL REPROCESSING PLANT AT SELLAFIELD, U.K.,

CROUCH DAVID

UNIV OF SUSSEX, UK,

SCIENCE OF THE TOTAL ENV, SEP 86, V53, N3, P201(16)

JOURNAL ARTICLE THE ASSESSMENT OF HEALTH RISKS TO THE POPULATION FROM RADIONUCLIDES IN THE ENVIRONMENT IS A COMPLEX AND AS YET INCOMPLETE SCIENCE. BIOGEOCHEMICAL MECHANISMS OF ENVIRONMENTAL TRANSFER AND CONCENTRATION ARE POORLY UNDERSTOOD, AND MODELS OF RADIONUCLIDE METABOLISM RELY LARGELY ON INCONCLUSIVE EXPERIMENTS WITH ANIMALS. THESE PROBLEMS ARE DESCRIBED WITH REFERENCE TO THE ASSESSMENT OF CHILD CANCER RISKS AT THE SELLAFIELD, U.K., NUCLEAR FUEL REPROCESSING PLANT. THE EXTENT OF UNCERTAINTIES IN A RECENT RADIOLOGICAL RISK ASSESSMENT ARE FOUND TO BE SUCH THAT, SHOULD SCIENTIFIC CONCERN PERSIST OVER THE EXCEPTIONAL INCIDENCE OF CHILD CANCER AT THIS SITE, GREATER CONSIDERATION SHOULD BE GIVEN TO A REAPPRAISAL OF THE RISK CALCULATION. (77 REFERENCES) (ENVIROLINE)

Uncertainty and relative risks of radiation exposure.

Adelstein S

JAMA 1987 Aug 7;258(5):655-7

Exposure to ionizing radiation in a nonmilitary emergency is likely to alarm those persons exposed and their families. Not only is the outcome uncertain, but the risks are difficult to convey. This communication discusses uncertainties in short-term outcome and long-term effects, as well as means of conveying the magnitude of risks to patients and their families. It emphasizes that the perception of radiation hazards is contextual. It offers three ways of presenting the prognostic long-term risks of accidental radiation exposure by comparing them with the incidence of cancer and genetic abnormalities in unexposed persons, the hazards of everyday living, and the level of natural and medical exposures to ionizing radiation.(NLM)

ECOLOGICAL RISK ASSESSMENT

JUDGMENT AND ANALYSIS IN OIL SPILL RISK ASSESSMENT,
STEWART THOMAS R. ; LESCHINE THOMAS M.
(NATL CENTER FOR ATMOSPHERIC RESEARCH, CO) AND ; (UNIV OF WASHINGTON),
RISK ANALYSIS, 1986, V6, N3, P305(11)
JOURNAL ARTICLE THE JUDGMENTAL BASIS IS DESCRIBED FOR TISK ASSESSMENT IN AN IMPORTANT, CONTROVERSIAL AREA OF ENVIRONMENTAL RISK: THE RISK OF OIL SPILLS FROM MARINE TRANSPORTATION ASSOCIATED WITH PROPOSED COASTAL ENERGY FACILITIES OR OFFSHORE OIL DRILLING. THREE GENERAL APPROACHES TO THE PROBLEM ARE OUTLINED, HIGHLIGHTING THE INTUITIVE, EMPIRICAL, AND SIMULATION PATHS. THE JUDGMENTS INVOLVED IN A NUMBER OF ANALYTIC OIL SPILL RISK ASSESSMENT METHODS ARE COMPARED. (2 GRAPHS, 38 REFERENCES, 4 TABLES)
(ENVIROLINE)

POLICY

At the top of the questions - risk.
Ramsey, Stephen D.
Environmental Forum 4 n10 24(2) Feb, 1986
GEOGRAPHIC CODE: NNUS
JURISDICTION: United States
SIC CODE: 9121
DESCRIPTORS: Environmental protection--philosophy; Risk assessment--environmental aspects; United States. Congress--environmental policy
(LEGAL RESOURCE INDEX)

EPA'S RISK ASSESSMENT CULTURE,
YOSIE TERRY F.
EPA, DC,
ENV SCIENCE & TECHNOLOGY, JUN 87, V21, N6, P526(6)
JOURNAL ARTICLE RISK ASSESSMENT PLAYS AN IMPORTANT ROLE IN EPA'S REGULATORY PROCESSES. THE AGENCY TRANSLATES THE GOALS AND LANGUAGE OF FEDERAL ENVIRONMENTAL STATUTES INTO CRITERIA THAT ARE USED TO EVALUATE THE RISKS OF SPECIFIC POLLUTANTS AS A BASIS FOR REACHING REGULATORY DECISIONS. SOME CHARACTERISTICS OF THE RISK ASSESSMENT PROCESS ARE DISCUSSED: THE SHIFTING INFLUENCE AMONG THE OFFICES THAT PREPARE ASSESSMENTS, THE EXPANDED USE OF EXTERNAL SCIENTIFIC ADVISORS, AND THE SEARCH FOR CONSISTENCY IN THE DEVELOPMENT OF RISK ASSESSMENTS. FEATURES OF A NEW, EMERGING RISK ASSESSMENT CULTURE INCLUDE MULTIMEDIA RISK ASSESSMENT, MEDIATING OR INTEGRATING STRUCTURES, AND RISK COMMUNICATION. (ENVIROLINE)

Last word on EPA risk decisions?
Yuhnke, Bob; Russell, Milton
Environmental Forum 4 n10 44(3) Feb, 1986
GEOGRAPHIC CODE: NNUS
JURISDICTION: United States
SIC CODE: 9511
DESCRIPTORS: United States. Environmental Protection Agency--decision making; Risk assessment--environmental aspects; Public health--environmental aspects (LEGAL RESOURCE INDEX)

LEGAL ASPECTS

Releases and risk-sharing - finding a proper balance.
Habicht, F. Henry, II
Environmental Forum 4 n9 28(3) Jan, 1986
GEOGRAPHIC CODE: NNUS
JURISDICTION: United States
STATUTE: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
DESCRIPTORS: Risk assessment--environmental aspects; Hazardous waste sites --management; Compromise (Law)--environmental aspects
(LEGAL RESOURCE INDEX)

Risk Analysis: Fear of Disease Fuels Flurry of Toxic Tort Cases
Baram, Michael
National Underwriter (Property/Casualty/Employee Benefits) v91n29 PP: 31,34-35 Jul 20, 1987
AVAILABILITY: ABI/INFORM
The public is greatly concerned about the health risks associated with hazardous wastes and other toxic chemicals. The result has been a flurry of toxic tort cases based on fear of disease and evidence of increased risk. The claims are of great concern to industrial firms and to their insurers, who are potentially liable for compensatory damages and for bearing the costs of other remedies imposed by the courts. Tort law has evolved over the last decade, and the changes have favored the victims of toxic exposure with actual disease. In several states, the changes are being expanded to accommodate fear of disease and increased-risk claimants who lack actual physical injury. Insurers must face up to the situation in providing and costing future coverages and deciding on options among the choices available. Within the tort system, users can promote new evidentiary standards or the use of better litigation strategies. Increased reliance on alternative dispute resolution methods or support of enactment of a victim's compensation program can take these cases out of the tort system.
(ABI/INFORM)

Toward resolution of insurance coverage questions in toxic tort litigation. (New Jersey) (Symposium: Toxic Waste)
Bauer, Janine; Lakind, Arnold
Rutgers Law Journal 38 n4 677-727 Summ, 1986
GEOGRAPHIC CODE: NNUSL.WJ
JURISDICTION: New Jersey
CASE: Ayers v. Township of Jackson 461 A.2d 184 (N.J. 1983); Jackson Township Municipal Utilities Authority v. Hartford Accident & Indemnity Co. 451 A.2d 990 (N.J. 1982)
DESCRIPTORS: Toxic torts--insurance; Right to know (Hazardous substances) --litigation; Insurance, Pollution liability--litigation
(LEGAL RESOURCE INDEX)

USES OF RISK ASSESSMENT

Health Risk Analysis: Technical Adequacy in Three Selected Cases
General Accounting Office, Washington, DC. Program Evaluation and Methodology Div.
Corp. Source Codes: 010682032
Report No.: GAO/PEMD-87-14; B-227612
Sep 87 174p
Languages: English
NTIS Prices: PC A08/MF A01 Journal Announcement: GRAI8803
Country of Publication: United States
The report investigates the quality and scope of risk analysis activities conducted by selected federal agencies with responsibility for regulating environmental health and safety. It serves as a pilot study for possible future evaluations of federal health risk analyses.(NTIS)

INSTITUTION OF ENGINEERS (AUSTRALIA) 1986 NATIONAL ENVIRONMENTAL ENGINEERING CONFERENCE, MELBOURNE, MARCH 17-19, 1986,
INST OF ENGINEERS (AUSTRALIA) REPORT 86/2, 1986 (144)
CONF PROCEEDINGS AN ENGINEERING CONFERENCE SPONSORED BY THE INST. OF ENGINEERS (AUSTRALIA), AND HELD IN MELBOURNE, AUSTRALIA, MARCH 17-19, 1986, FOCUSED ON THE USE AND ABUSE OF ENVIRONMENTAL INFORMATION IN ENGINEERING. A NUMBER OF CASE STUDIES IS REVIEWED TO INDICATE DIFFERENT WAYS IN WHICH THE CONSIDERATION OF ENVIRONMENTAL INFORMATION HAS INFLUENCED ENGINEERING PROJECTS. TOPICS COVERED INCLUDE: SYSTEMATIC CLASSIFICATION OF ENVIRONMENTAL CRITERIA; USE AND LIMITATIONS OF ENVIRONMENTAL HAZARD ASSESSMENT OF INDUSTRIAL WASTE DISPOSAL FACILITIES; THE BENEFICIAL APPLICATION OF ENVIRONMENTAL STUDIES TO THE DEVELOPMENT OF MINING PROJECTS; AND PRELIMINARY ENVIRONMENTAL ASSESSMENT IN WATER RESOURCES PLANNING AND MANAGEMENT. (11 DIAGRAMS, 26 GRAPHS, 99 REFERENCES, 54 TABLES)
(ENVIROLINE)

Methodology for Predictive Modeling of Environmental Transport and Health Effects for Waste Sites at the Savannah River Plant: Environmental Information Document
Stephensen, D. E. ; King, C. M. ; Looney, B. B. ; Grant, M. W.
Savannah River Lab., Aiken, SC.
Corp. Source Codes: 087640000; 9520932
Sponsor: Department of Energy, Washington, DC.
Report No.: DPST-86-710
Mar 87 71p
Portions of this document are illegible in microfiche products.
Languages: English
NTIS Prices: PC A04/MF A01 Journal Announcement: GRAI8801; NSA1200
Country of Publication: United States
Contract No.: AC09-76SR00001
This document provides information on the methods used to predict chemical transport and the associated health risk for various postulated closure activities at waste sites. The document was prepared as background

documentation for the Department of Energy's proposed Environmental Impact Statement (EIS) on waste management activities for groundwater protection at the Savannah River Plant (SRP). The various mathematical formulations used in the environmental transport analysis, the exposure assessment, and the health risk assessment used in the analysis of all foreseeable scenarios as defined by the National Environmental Policy Act (CFR, 1986) are presented in this document. The scenarios do not necessarily represent actual environmental conditions for every SRP waste site. This document was prepared in support of the National Environmental Policy Act process, but does not by itself satisfy federal or state regulatory requirements. 29 refs., 11 figs. (ERA citation 12:041888) (NTIS)

THE USE OF QUANTITATIVE RISK ASSESSMENT IN THE SELECTION OF WASTE TREATMENT DESIGN,

SEPESI JEFFREY ; SLOAN ALPHEUS ; FLEISSNER JOHN

CH2M HILL, WI,

UNIV OF WISCONSIN 8TH MUNICIPAL & INDUSTRIAL WASTE CONF, MADISON, SEP 18-19, 85, P1(16)

CONF PAPER REDUCTION OF RISK TO THE PUBLIC HEALTH AND ENVIRONMENT ASSOCIATED WITH WASTE TREATMENT TECHNOLOGY IS PART OF THE MANDATE OF 1980 SUPERFUND LEGISLATION AND MUST BE ASSESSED WHEN SELECTING REMEDIAL TECHNOLOGY. QUANTITATIVE RISK ASSESSMENT PROCEDURES ARE EXPLAINED. THE FIRST STEP IN SUCH ASSESSMENT IS HAZARD IDENTIFICATION, FOLLOWED BY EXPOSURE ASSESSMENT AND DETERMINATION OF A ROUTE OF EXPOSURE. SELECTION OF TREATMENT TECHNOLOGIES ON THE BASIS OF RISK REDUCTION IS ILLUSTRATED THROUGH TWO EXAMPLES: TREATMENT OF GROUNDWATER CONTAMINATED WITH A VARIETY OF ORGANIC COMPOUNDS PRIOR TO DISCHARGE, AND TREATMENT OF TRICHLOROETHYLENE-POLLUTED GROUNDWATER DIRECTLY AFFECTING PRIVATE COMMUNITY WELLS. (3 DIAGRAMS, 14 REFERENCES, 1 TABLE) (ENVIROLINE)

BIBLIOGRAPHIES AND OTHER SOURCES....this section highlights a variety of documents including bibliographies,serial publications, directories, special subject collections,indexes, etc. These sources lead to information and data on specific chemicals and chemical groups as well as on many of the intricate components of risk assessmnet including exposure, fate, toxicity, chemical safety and handling, physical and chemcial properties,standards and regulations , manufacturing and use, etc.

Environmental Chemicals - Their Impacts and Pathways

Arbeitsgemeinschaft der Grossforschungseinrichtungen, Bonn (Germany, F.R.).

Corp. Source Codes: 056207000; 9201551

Report No.: CONF-8512105-

1985 79p

In German. Lecture meeting on environmental chemicals - their impacts and pathways, Bonn, F.R. Germany, 12 Dec 1985.

U.S. Sales Only. Portions of this document are illegible in microfiche products.

Languages: German Document Type: Conference proceeding

NTIS Prices: PC A05/MF A01 Journal Announcement: GRAI8712; NSA1200

Country of Publication: Germany, Federal Republic of

22 papers were given at the conference and were entered separately in the data base. Topics covered the following fields of environmental chemicals: 1. global distribution and atmospheric chemistry; 2. occurrence and formation in aquatic and terrestrial ecosystems; 3. toxicity and determination methods; and 4. medical aspects. (ERA citation 12:009895) (NTIS)

Hazardous Materials Transportation. January 1977-April 1987 (Citations from the NTIS Database)

(Rept. for Jan 77-Apr 87)

National Technical Information Service, Springfield, VA.

Corp. Source Codes: 055665000

Apr 87 172p

Supersedes PB86-865268.

Languages: English Document Type: Bibliography

NTIS Prices: PC N01/MF N01 Journal Announcement: GRAI8712

Country of Publication: United States

This bibliography contains citations concerning the transport of hazardous materials primarily by road, rail, and cargo vessel. Risk assessment, accident analyses, response programs, and explosives container design aspects are among the topics discussed. Federal legislative aspects and state programs, and test procedures for a variety of containers are also considered. Selected fossil fuels, explosives, and hazardous chemicals are among the materials presented. Citations pertaining specifically to radioactive materials are discussed in a separate bibliography. (This updated bibliography contains 350 citations, 23 of which are new entries to the previous edition.) (NTIS)

RISK MANAGEMENT

... DESCRIBES REGULATORY DECISION-MAKING PROCESSES TO CONTROL AND MANAGE RISK

GENERAL PERSPECTIVES... includes decision making, acceptable risk, risk-taking (psychology), multi-media approach, cross media (holistic) approach, applications, uncertainty, risk/benefit.

Fairness Hypothesis and Managing the Risks of Societal Technology Choices

Cantor, R. ; Rayner, S.
Oak Ridge National Lab., TN.
Corp. Source Codes: 021310000; 4832000
Sponsor: Department of Energy, Washington, DC.
Report No.: CONF-861211-11
Aug 86 27p
American Society of Mechanical Engineers winter meeting, Anaheim, CA, USA, 7 Dec 1986.
Languages: English Document Type: Conference proceeding
NTIS Prices: PC A03/MF A01 Journal Announcement: GRAI8711; NSA1200
Country of Publication: United States
Contract No.: AC05-84OR21400

Much of the literature on risk perception and management has asked how society should resolve the question, ''How safe is safe enough'' There has been political and technical disagreement over the types of answers that may be given, as well as over the social values attached to perceived probabilities and magnitudes of various outcomes. Despite controversy, there seems to have been a large measure of consensus that, ''How safe is safe enough'' is the right question to ask. This paper sets out to question that assumption. Various ingenious techniques of risk analysis have sought to discover the real risks inherent in various activities, but from a sociocultural viewpoint it can be seen that no single answer can be given to the problem of adequate safety in a complex society which contains a wide variety of perceptual biases about danger, expectations of the good life, and levels of demand for safety. The paper argues that, from a societal risk-management perspective, we should be addressing a different range of questions that views societal risk as a whole rather than as the sum of individual hazards. Resolving the question, ''How safe is safe enough'' is less important in making societal technology choices than ''How fair is safe enough.'' A recent empirical pilot study is reported which explored the ufairness hypotheses in the context of nuclear power. The results indicate that the process of technology choice should recognize explicitly the preferred principles different parties hold with respect to obtaining consent from those affected by the risks, distributing the liabilities, and justifying trust in the relevant institutions. The paper closes with a discussion of future prospects for the fairness approach in areas such as noxious facility siting. (ERA citation 12:003531)
(NTIS)

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THE THREE LEGACIES OF BHOPAL,
KUMAR SEHDEV
ALTERNATIVES, NOV 86, V13, N4, P3(8)
JOURNAL ARTICLE ON DECEMBER 2, 1984, BHOPAL, INDIA, BECAME THE SITE OF THE WORLD'S WORST INDUSTRIAL ACCIDENT WHEN METHYL ISOCYNATE LEAKED FROM THE UNION CARBIDE CO. PESTICIDE MANUFACTURING PLANT. EVENTS LEADING UP TO THE ACCIDENT, AND DEFECTS IN PLANT DESIGN THAT CONTRIBUTED TO THE TRAGEDY ARE DISCUSSED. UNION CARBIDE MEDICAL PERSONNEL ARE CHARGED WITH FAILURE IN COMMUNICATION AND MISINFORMATION, AS THEY INSISTED THAT THE TOXIC GAS ESCAPING FROM THE PLANT WAS NOT DANGEROUS AND DID NOT HAVE ANY LONG TERM EFFECTS. THE THREE LESSONS TO BE LEARNED FROM THE BHOPAL ACCIDENT CONCERN SITING, ANALYSIS OF RISKS, AND AWARENESS. FACTORIES WITH HAZARDOUS CHEMICALS MUST BE SITED AWAY FROM POPULATED AREAS. THE NEED FOR DEVELOPING AND APPLYING METHODS OF PROBABILISTIC RISK ASSESSMENT TO SUCH TECHNOLOGIES IS INDICATED, AS IS THE NEED TO ENHANCE PUBLIC AWARENESS OF THE DANGERS OF CERTAIN PROCESSES AND PRODUCTS IN NEARBY FACTORIES. (1 DIAGRAM, 1 MAP, 3 PHOTOS, 1 TABLE) (ENVIROLINE)

Problems of Environmental Pollution in a Modern Society
Pinchera, G. C.
ENEA, Rome (Italy).
Corp. Source Codes: 085298000; 2372100
Report No.: ENEA-RT/AMB-83-9
Oct 83 38p
In Italian.
U.S. Sales Only. Paper copy only, copy does not permit microfiche production.
Languages: Italian
NTIS Prices: PC A03 Journal Announcement: GRAI8615; NSA1100
Country of Publication: Italy
The paper deals with the problem of environmental deterioration in Italy and of systematic acquisition of data on the state of environment. Manners in which some countries are tackling the problems of regulating air pollution control are analysed and compared. Then, attention is given to farming practices which made agriculture notoriously exposed to pollution caused by other human activities, becoming itself a significant source of adverse ecological effects. Possible directions for recovering, recycling and utilizing wastes of urban, agrozootechnical and industrial origin are discussed. Finally, some suggestions are made for the improvement of environmental risk management in Italy. (ERA citation 11:023811)
(NTIS)

Promoting Risk Management in Developing Countries
Skipper, Harold D., Jr.
Risk Mgmt v34n6 PP: 18-24 Jun 1987
AVAILABILITY: ABI/INFORM
One outcome of the tragic 1984 industrial accident in Bhopal, India, was the United Nations Conference on Trade and Development's commissioning of a study on the applicability of modern risk management techniques to

commercial and industrial enterprises in developing countries. The study, conducted by Georgia State University, concluded that risk management can help developing nations achieve economic and political self-sufficiency. It also concluded that governments in most countries must assume a major responsibility for promoting risk management by: 1. designing insurance laws to faster use of the technique, and 2. ensuring that exchange controls and trade laws are compatible with risk management promotion. Insurance companies in developing countries should assume a leadership role in promoting risk management. Top executives of commercial and industrial enterprises must accept responsibility for the successful integration of risk management in development. Multinational enterprises also have a special role to play. References. (ABI/INFORM)

Role of Liability Preferences in Societal Technology Choices: Results of a Pilot Study

Cantor, R. ; Rayner, S. ; Braid, B.
Oak Ridge National Lab., TN.
Corp. Source Codes: 021310000; 4832000
Sponsor: Department of Energy, Washington, DC.
Report No.: CONF-8510223-1
1985 15p
Annual meeting of the Society for Risk Analysis, Alexandria, VA, USA, 6 Oct 1985.
Languages: English Document Type: Conference proceeding
NTIS Prices: PC A02/MF A01 Journal Announcement: GRAI8608; NSA1100
Country of Publication: United States
Contract No.: AC05-84OR21400

At the 1984 Annual Meeting of the Society for Risk Analysis, Steve Rayner presented a paper that challenged the conventional wisdom of risk management research. In that paper, he argued that resolving the question, ''How safe is safe enough.'' is less important in making societal technology choices than ''How fair is safe enough.'' Adopting the fairness question as the concern of risk management would imply that the process of technology choice explicitly recognize the preferred principles different parties hold with respect to obtaining consent from those affected by the risks, distributing the liabilities, and justifying trust in the relevant institutions. This paper discusses a recent empirical pilot study which explored the fairness hypothesis in the context of nuclear power. Individual interviews and focus groups were conducted to examine whether or not preferred principles for liability distributions were consistent with those suggested by the cultural characteristics of the constituency. The results suggest that for this type of societal technology choice, violation of these preferred principles may be a major source of the conflict between different constituencies. Additionally, the study contributes towards the development of a new approach in risk management that combines the cultural model of risk perceptions with the decision-theoretic approaches found in economics and psychology. (ERA citation 11:007255) (NTIS)

LEGAL ASPECTS... includes law, courts, regulations, mediation vs litigation

Squaring-Off Successfully Against Toxic Waste Risks
Tusa, Wayne
Risk Mgmt v34n11 PP: 50-52 Nov 1987
AVAILABILITY: ABI/INFORM

The reauthorized Superfund amendments: 1. require toxic waste cleanups to meet more stringent environmental standards and to maximize the use of permanent remedial technologies, 2. strengthen the Environmental Protection Agency's legal posture, and 3. increase the potential for private citizen legal actions. Ten guidelines are offered for potentially responsible parties that are attempting to minimize losses associated with remediating hazardous waste sites. These are: 1. Never underestimate potential Superfund liabilities. 2. Superfund liabilities are not determined soley by the application of good science. 3. It is critically important to develop a long-term liability management strategy for each site. 4. Regulators focus on a strategy with a strong conservative bias. 5. Risk assessment techniques are important in justifying remedial solutions. 6. The ability to document risk conclusions is useful. 7. Long-term strategies also must accommodate the administrative process. 8. Experienced legal representation is crucial. 9. Appropriate technical support is critical. 10. The risk conclusions and proposed remedial approach must be made acceptable to a very skeptical audience.(ABI/INFORM)

HEALTH RISKS... includes occupational and nonoccupational management of risks, radiation, risk/benefit, margin of safety, cancer, genetics,and public health.

Joint IAEA/UNEP/WHO Project on Assessing and Managing Health and Environmental Risks from Energy and Other Complex Industrial Systems

Brookhaven National Lab., Upton, NY. Dept. of Applied Science.
Corp. Source Codes: 004545006; 9502232
Sponsor: Department of Energy, Washington, DC.
Report No.: BNL-38299
1985 35p
Portions of this document are illegible in microfiche products.
Languages: English
NTIS Prices: PC A03/MF A01 Journal Announcement: GRAI8703; NSA1100
Country of Publication: United States
Contract No.: AC02-76CH00016

The project comprises four main activities, namely: (1) the development of a guide to procedures for risk management and hazard control, drawing on results from a number of case studies which will be carried out in Member States; (2) the establishment and operation of a system for the collection, evaluation and distribution of information concerning methods and, as required, health and environmental effects; (3) the training of personnel in risk management and hazard control; and (4) the promotion of an approach to risk management and hazard control, and procedures for the planning of energy production and use and of other complex technologies, at the national level. (NTIS)

CHEMICAL SPECIFIC RISK MANAGEMENT

Characterization of Gas Hazards in the Manufacture of alpha -Si Photovoltaic Cells

Fthenakis, V. M. ; Moskowitz, P. D.
Brookhaven National Lab., Upton, NY.
Corp. Source Codes: 004545000; 0936000
Sponsor: Department of Energy, Washington, DC.
Report No.: BNL-51854
Apr 85 33p
Languages: English
NTIS Prices: PC A03/MF A01 Journal Announcement: GRAI8607; NSA1100
Country of Publication: United States
Contract No.: AC02-76CH00016

Production of alpha -Si thin-film photovoltaic cells entails extensive handling of many toxic and/or pyrophoric gases which present potential significant occupational hazards. Toxic gas by-products of the manufacturing process are likely to be produced in small quantities and can be controlled by use of available technology; controlled emissions from normal operation will probably pose no hazards to public health. Accidental release of gases stored on site, however, may endanger both plant personnel and the surrounding community. Safe handling of explosive SiH sub 4 gas requires careful gas system design, the fundamentals of which are discussed. Gases in the alpha -Si deposition processes can be handled safely, provided that certain safety features are incorporated in the design of facilities and that users take appropriate precautions. Hazard management options are discussed. (ERA citation 11:005049) (NTIS)

DIOXIN

DIOXIN RISK MANAGEMENT AT TIMES BEACH, MISSOURI: AN EVALUATION,

MCKONE THOMAS E.
LLNL,
ENV PROFESSIONAL, 1986, V8, N1, P13(12)

JOURNAL ARTICLE THE DIOXIN CONTAMINATION PROBLEM AT TIMES BEACH, MO, IS EVALUATED TO DETERMINE THE IMPLICIT COST-BENEFIT RATIO EMPLOYED AND TO COMPARE THIS TO RATIOS USED FOR RADIOACTIVE CONTAMINATION. THE DIOXIN SOURCE TERM AND ITS CHEMICAL FATE WITHIN THE TIMES BEACH ENVIRONMENT IS SURVEYED. THE RISK ASSESSMENT IS FACILITATED THROUGH A MODELING SCHEME ADDRESSING TCDD CONCENTRATIONS IN AIR, SOIL, SURFACE WATER, AND SEDIMENT ENVIRONMENTAL COMPONENTS. DERIVED DATA ARE USED TO ASSESS THE COST-BENEFIT RATIO WHICH WAS IMPLICIT IN THE DECISION TO BUY OUT THE COMMUNITY. EPA USED AN IMPLICIT RATIO OF $1.5-33 MILLION PER CANCER AVERTED WHEN IT BOUGHT THE TOWN FOR $33 MILLION. THIS IS COMPARED WITH THE $17 MILLION PER CANCER AVERTED THAT NRC USES IN GUIDELINES FOR REDUCING ROUTINE RELEASES FROM NUCLEAR POWER FACILITIES. THUS, THE AMOUNT OF MONEY EXPENDED AT TIMES BEACH APPEARS REASONABLE. (1 DIAGRAM, 27 REFERENCES, 8 TABLES) (ENVIROLINE)

MANAGING ECONOMIC RISKS FROM PCB EQUIPMENT IN ELECTRIC UTILITY POWER PLANTS,

COHAN DAVID ; NIEMEYER E. VICTOR

(ELECTRIC POWER RESEARCH INST, PALO ALTO), AND ; (DECISION FOCUS INC),

ENV PROFESSIONAL, 1987, V9, N2, P133(5)

JOURNAL ARTICLE THE PCB ECONOMIC RISK MANAGEMENT MODEL (ASK) FOCUSES ON THE QUESTION OF WHEN TO REPLACE PCB OR ASKAREL EQUIPMENT BY PROVIDING A METHOD TO COMPARE THE COSTS AND BENEFITS OF ALTERNATIVE EQUIPMENT MANAGEMENT STRATEGIES. ECONOMIC RISKS ARE DIRECT EQUIPMENT AND CLEANUP COSTS, AND COSTS INCURRED DUE TO HEALTH OR ECOLOGICAL EFFECTS OF RELEASES OF PCBS. RESULTS OF ANALYSES AT TWO POWER PLANTS ARE PRESENTED WHICH SHOW, HOW THE PARTICULAR CIRCUMSTANCES OF A PCB TRANSFORMER AFFECT THE ECONOMIC RISKS AND BENEFITS OF PCB RISK MANAGEMENT OPTIONS. (2 DIAGRAMS, 2 REFERENCES, 2 TABLES) (ENVIROLINE)

THE TRANSFORMER/CAPACITOR RISK MANAGEMENT MODEL,

EPRI REPORT EA-4985, JAN 87 (140)

ASSN REPORT A COMPUTER MODEL WAS DEVELOPED TO DESCRIBE THE MECHANISMS ENVIRONMENTAL RISKS. THE TRANSFORMER/CAPACITOR RISK MANAGEMENT MODEL INCLUDES TWO KEY COMPONENTS: A DECISION TREE AND A DETERMINISTIC MODEL. ELEMENTS OF CONCERN IN REGULATING PCBS ARE INCORPORATED INTO THE ANALYTICAL SCHEME, INCLUDING INVENTORY OF EQUIPMENT OVER TIME, FREQUENCY OF INCIDENTS INVOLVING RELEASE PF PCBS, QUANTITIES RELEASED, AMOUNT OF HUMAN EXPOSURE, AND HUMAN HEALTH EFFECTS. ECONOMIC CONSIDERATIONS ADDRESSED ARE COSTS OF REPLACING EQUIPMENT AND OF CLEANING UP AFTER RELEASE INCIDENTS. (ENVIROLINE)

A 1987 Superfund Primer
Bergen, G. S. Peter
Risk Mgmt v34n7 PP: 20-25 Jul 1987
AVAILABILITY: ABI/INFORM

The Superfund statute, officially named the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), creates an $8.5 billion fund to pay for certain expenses relating to cleanup of leaking hazardous waste dumps. A significant portion of the expenses also will be paid directly by those who created or generated the hazardous materials, or by their insurance or reinsurance carriers. Superfund's thrust continues to be making those responsible for chemical releases to the environment bear the cost of cleanup. Those persons liable under CERCLA can be held: 1. liable without fault, 2. jointly liable, and 3. retroactively liable. Persons who may be held liable include: 1. the owner and operator of a facility, 2. the person who previously owned it, 3. those who arranged for disposal, and 4. any transporters of hazardous substances who actively selected the site. Superfund's most vexing problems arise when the fund is applied to releases from facilities that have ongoing treatment operations subject to regulations under the Resource Conservation and Recovery Act (RCRA). Proposals under the Superfund Amendments and Reauthorization Act of 1986 include changes of definitions, standards on cleanliness, and new provisions on settlements and a community's right to know about storage and use of chemicals. References. (ABI/INFORM)

Technical Resource Document for Obtaining Variance from the Secondary Containment Requirement of Hazard Waste Tank Systems. Volume 1. Technology-Based Variance
Versar, Inc., Springfield, VA.
Corp. Source Codes: 060372000
Sponsor: Environmental Protection Agency, Washington, DC. Office of Solid Waste.
Report No.: EPA/530/SW-87/002-A
Feb 87 248p
See also Volume 2, PB87-158663. Sponsored by Environmental Protection Agency, Washington, DC. Office of Solid Waste.
Languages: English
NTIS Prices: PC A11/MF A01 Journal Announcement: GRAI8711
Country of Publication: United States
Contract No.: EPA-68-01-7053
Descriptors: *Hazardous materials; *Tanks(Containers); *Storage tanks; *Waste treatment; Design; Regulations; Containment; Technology; Installing
Identifiers: *Hazardous wastes; NTISEPASW
Section Headings: 68C* (Environmental Pollution and Control--Solid Wastes Pollution and Control) (NTIS)

Technical Resource Document for Obtaining Variance from the Secondary Containment Requirement of Hazard Waste Tank Systems. Volume 1. Technology-Based Variance

Versar, Inc., Springfield, VA.

Corp. Source Codes: 060372000

Sponsor: Environmental Protection Agency, Washington, DC. Office of Solid Waste.

Report No.: EPA/530/SW-87/002-A

Feb 87 248p

See also Volume 2, PB87-158663. Sponsored by Environmental Protection Agency, Washington, DC. Office of Solid Waste.

Languages: English

NTIS Prices: PC A11/MF A01 Journal Announcement: GRAI8711

Country of Publication: United States

Contract No.: EPA-68-01-7053

On July 14, 1986, EPA promulgated revised standards for hazardous waste storage and treatment tank system (51 FR 25422). These regulations require that all new and existing hazardous tank systems be provided secondary containment with release monitoring. EPA recognizes that the goal of protecting human health and the environment might be achieved in ways other than secondary containment. Therefore, tank system owners or operators may apply for a variance from the secondary containment requirements of the hazardous waste tank standards. Both risk-based and technology-based variances can be obtained. The document was developed to provide hazardous waste tank system owners and operators information for submitting a request for a variance. It was written in two volumes; Volume 1 covers technology-based variances, and Volume 2 covers risk-based variances. Technology based variances as discussed in Volume 1, can be granted if the tank system owner/operator can show that the use of new technology and/or alternative operating procedures together with location characteristics, will enable a release to be contained, detected, and removed as effectively as if a secondary containment technique were employed. (NTIS)

Technical Resource Document for Obtaining Variances from the Secondary Containment Requirement of Hazardous Waste Tank Systems. Volume 2. Risk-Based Variance

ICF, Inc., Washington, DC.

Corp. Source Codes: 040575000

Sponsor: Environmental Protection Agency, Washington, DC. Office of Solid Waste.

Report No.: EPA/530/SW-87-002-B

Feb 87 405p

See also Volume 1, PB87-158655. Sponsored by Environmental Protection Agency, Washington, DC. Office of Solid Waste.

Languages: English

NTIS Prices: PC A18/MF A01 Journal Announcement: GRAI8711

Country of Publication: United States

Contract No.: EPA-68-01-7290

On July 14, 1986, EPA promulgated revised standards for hazardous waste storage and treatment tank system (51 FR 25422). These regulations require that all new and existing hazardous tank systems be provided secondary containment with release monitoring. EPA recognizes that the goal of

protecting human health and the environment might be achieved in ways other than secondary containment. Therefore, tank system owners or operators may apply for a variance from the secondary containment requirements of the hazardous waste tank standards. Both risk-based and technology-based variances can be obtained. The document was developed to provide hazardous waste tank system owners and operators information for submitting a request for a variance. It was written in two volumes; Volume 1 covers technology-based variances, and Volume 2 covers risk-based variances. A risk-based variance as discussed in Volume 2, may be granted if the tank system owner/operator can show that if a release occurs there will be no substantial hazard (present or future) to the environment and human health. (NTIS)

VOLCANIC HAZARD ASSESSMENT FOR DISPOSAL OF HIGH-LEVEL RADIOACTIVE WASTE (ACTIVE TECTONICS),

CROWE BRUCE M.

LANL,

US NATL RESEARCH COUNCIL REPORT, 1986, P247(14)

FED GOVT REPORT VOLCANIC HAZARD STUDIES FOR DISPOSAL OF HIGH-LEVEL RADIOACTIVE WASTE POSE SOME UNIQUE PROBLEMS, INCLUDING THE LONG TIME FRAME OF HAZARD ASSESSMENT AND THE LIMITED GEOLOGIC RECORD OF VOLCANIC ACTIVITY AT DISPOSAL SITES. MAJOR VARIABLES AFFECTING VOLCANIC HAZARDS ARE THE STRUCTURE OF MAGMA FEEDER SYSTEMS AT REPOSITORY DEPTHS AND THE MAGMA FRAGMENTATION AND DISPERSAL ENERGY OF ERUPTIONS. VOLCANIC HAZARD RISK ASSESSMENTS HAVE BEEN COMPLETED FOR A POTENTIAL WASTE DISPOSAL FACILITY IN THE NEVADA TEST SITE. THE CONDITIONAL PROBABILITY OF DISRUPTION OF THE POSSIBLE WASTE DISPOSAL SITE BY BASALTIC VOLCANISM IS BOUNDED BY THE RANGE OF 10 TO THE MINUS EIGHT TO 10 TO THE MINUS 10/YEAR. THE TOTAL EXPECTED RELEASE FROM DISRUPTION OF A REPOSITORY BY BASALTIC MAGMA FOR A 10,000 YEAR PERIOD IS 1.8 CI FOR SPENT FUEL AND 1,3 CI FOR HIGH-LEVEL WASTE. (4 GRAPHS, 34 REFERENCES) (ENVIROLINE)

Indoor Ionizing Radiation. Technical Solutions and Remedial Strategy
Ericson, S. O. ; Lindvall, T. ; Maansson, L. G.
Swedish Council for Building Research, Stockholm.
Corp. Source Codes: 060307000; 9698225
Report No.: BFR-D-7-1986
1986 51p
U.S. Sales Only.
Languages: English
NTIS Prices: PC A04/MF A01 Journal Announcement: GRAI8801; NSA1200
Country of Publication: Sweden
Radiation in indoor air is discussed in the perspective of the effective dose equivalents from other sources of radiation. Estimates of effective doses equivalents from indoor radon and its contribution to lung cancer incidence are reviewed. Swedish experiences with cost effective remedial actions are presented. The authors present optimal strategies for screening measurements and remedial actions in cost-benefit perspective. (author). With 105 refs. (ERA citation 12:042633) (NTIS)

Long-Term Problems of Contaminated Land: Sources, Impacts and Countermeasures
Baes, III, C. F.
Oak Ridge National Lab., TN.
Corp. Source Codes: 021310000; 4832000
Sponsor: Department of Energy, Washington, DC.
Report No.: ORNL-6146
Nov 86 133p
Languages: English
NTIS Prices: PC A07/MF A01 Journal Announcement: GRAI8712; NSA1200
Country of Publication: United States
Contract No.: AC05-84OR21400
This report examines the various sources of radiological land contamination; its extent; its impacts on man, agriculture, and the environment; countermeasures for mitigating exposures; radiological standards; alternatives for achieving land decontamination and cleanup; and possible alternatives for utilizing the land. The major potential sources of extensive long-term land contamination with radionuclides, in order of decreasing extent, are nuclear war, detonation of a single nuclear weapon (e.g., a terrorist act), serious reactor accidents, and nonfission nuclear weapons accidents that disperse the nuclear fuels (termed ''broken arrows''). (ERA citation 12:009949) (NTIS)

What Does Chernobyl Teach US
Bengtsson, G.
Statens Straalskyddsinstitut, Stockholm (Sweden).
Corp. Source Codes: 100859000; 9860158
Report No.: SSI-86-14
Aug 86 6p

In Swedish.
U.S. Sales Only.
Languages: Swedish
NTIS Prices: PC A02/MF A01 Journal Announcement: GRAI8711; NSA1200
Country of Publication: Sweden

The accident has caused great problems and rendered large collective doses to the population. Difficulties concerning spread of information are discussed. Evaluation of risk seems to differ considerably from authorities to individuals. (ERA citation 12:006768) (NTIS)

CORPORATE RISK MANAGEMENT

Keep Up with Environmental Law: Expert
Hofmann, Mark A.
Business Insurance v21n46 PP: 103 Nov 16, 1987
AVAILABILITY: ABI/INFORM

Mary P. Morningstar, corporate counsel of Risk Science International Corp., an environmental consulting firm, says that changes in environmental law over the past 5 years present corporate risk managers with serious new challenges that could result in harsh penalties for those who fail to comply. Federal authorities have started imposing criminal penalties on violators. Risk managers have not often been the targets of federal criminal action, but any corporate officer who has any responsibility for environmental compliance could end up facing a jail term. There are several pending or already enacted federal rules and proposals of which risk managers should be aware. For example, under financial responsibility rules proposed by the Environmental Protection Agency, companies that store petroleum products or hazardous wastes in underground tanks would have to establish a financing mechanism to provide limits of $1 million per occurrence and a $6-million annual aggregate for cleanup costs and third-party liability arising from any spills or leaks.
(ABI/INFORM)

Pollution Update: Risk Control Is Key
Aschkenasy, Janet
National Underwriter (Property/Casualty/Employee Benefits) v91n52 PP: 19-20 Dec 28, 1987
AVAILABILITY: ABI/INFORM

Because of the Environmental Protection Agency's crackdown on polluters, risk manager's commitment to risk control can affect their chances of getting coverage dramatically. According to John Amore of American International Group (AIG), risk control is the key to the underwriting process. The best underwriting gamble is on companies with large exposures since these companies devote extensive resources to managing the risks while firms with marginal exposures tend to spend very little on risk management. Max Clay of Planning Corp. noted that state authorities are becoming more aggressive and more thorough in their cleanup efforts. The 3 companies that are active in the pollution liability market are: 1. AIG, 2. Reliance National Risk Specialists, and 3. Pollution Liability Insurance Association. Risk managers wishing to buy a standalone policy for underground petroleum storage tanks will find few outlets.
(ABI/INFORM)

Risk COMMUNICATION

... THE PROCESS OF EDUCATING AND INFORMING
AN AUDIENCE TO MAKE BETTER PERSONAL
AND SOCIETAL DECISIONS REGARDING RISK

INFORMING THE DECISION MAKER

A.G. would limit toxic law's public notice requirement. (Calif.)
Guccione, Jean
Los Angeles Daily Journal v100 p2 Aug 5, 1987
EDITION: Wed 7 col in
GEOGRAPHIC CODE: NNUSWCA
JURISDICTION: California
DESCRIPTORS: Right to know (Hazardous substances)--analysis
(LEGAL RESOURCE INDEX)

The community right-to-know requirements: new obligations and liabilities for industry.
Ezzard, Martha M.
Colorado Lawyer 16 n8 1404(4) Aug, 1987
GEOGRAPHIC CODE: NNUS
JURISDICTION: United States
STATUTE: Emergency Planning and Community-Right-To-Know Act of 1986
DESCRIPTORS: Right to know (Hazardous substances)--law and legislation
(LEGAL RESOURCE INDEX)

The Expanding Scope of Employers' Duties Under the Hazard Communication Standard and State and Local Right-to-Know Laws
Goldsmith, Willis J.
Employee Relations Law Jrnl v12n4 PP: 705-711 Spring 1987
AVAILABILITY: ABI/INFORM

The Occupational Safety and Health Administration's (OSHA) Hazard Communication Standard (HCS) became effective just over a year ago. During that period, state and federal lawmakers have broadened the hazardous substance disclosure obligations of employers, and 2 appellate court decisions have limited the preemptive effect of the HCS on state and local hazard communication laws. In Manufacturer's Association of Tri-County versus Knepper (1986), the 3rd Circuit Court addressed the constitutionality of the Pennsylvania Worker and Community Right-to-Know Act of 1984. It ruled that only those requirements of the act exclusively applicable to employee hazard communication were preempted in the manufacturing sector. In Ohio Manufacturers' Association versus City of Akron (1986), the 6th Circuit held that the federal HCS preempts part of the Akron, Ohio, right-to-know ordinance. Recent state and federal legislative and regulatory efforts to broaden employers' obligations

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regarding hazardous material waste handling include: 1. the Superfund Right-to-Know Law, 2. comprehensive state laws, and 3. proposed OSHA rulemaking. References. (ABI/INFORM)

Hazard Communication Standard Requirements: A Primer for Trainers
Oak Ridge Associated Universities, Inc., TN.
Corp. Source Codes: 021305000; 4828000
Sponsor: Department of Energy, Washington, DC.
Report No.: ORAU-255
Nov 85 36p
Portions of this document are illegible in microfiche products.
Languages: English
NTIS Prices: PC A03/MF A01 Journal Announcement: GRAI8709; NSA1200
Country of Publication: United States
Contract No.: AC05-76OR00033

This document, prepared for the 1985 TRADE Conference, provides background information about the training requirements specified by OSHA 29 CFR 1910.1200 - Hazard Communication (Appendix II) and the DOE Environment, Safety and Health Bulletin number14, ''How OSHA's New 'Hazard Communication' Standard Affects DOE Contractors'' (Appendix III). The purpose of the OSHA Hazard Communication Standard (HCS) is to ''reduce chemical source illnesses and injuries through behavior modification resulting from the acquisition of hazard information.'' This can occur only if employees receive information in a usable form through appropriate training. The HCS requirements are results-oriented, providing goals for achievement and allowing employers flexibility to develop training programs suitable for each facility. The purpose of the DOE ES and H Bulleting number14 is to clarify the application of the HCS to DOE contractors. (ERA citation 12:002054) (NTIS)

Risk Analysis: Data Base May Aid Pollution Carriers in Writing Covers
Baram, Michael
National Underwriter (Property/Casualty/Employee Benefits) v91n46 PP: 9,42 Nov 16, 1987
AVAILABILITY: ABI/INFORM

Under the Emergency Planning and Community Right to Know Act of 1986, communities now are receiving data on the extremely hazardous chemicals being produced, used, or stored within their boundaries by industrial companies. The organizations that will use this risk information will be the local emergency planning committees for each emergency planning district and the local fire departments. The challenge they face will be to assess the level of danger posed by the chemicals to develop emergency plans and other risk-reducing measures. Industrial Economics, Inc. (Cambridge, Massachusetts) has the "Acute Hazardous Events Data Base," which contains historical data on over 10,000 toxic chemical releases in the US, including their causes and effects. For example, the event context provides information on the activities that happened before the event. Entries for each event specify whether or not there were injuries or fatalities and how many people were involved. (ABI/INFORM)

Safety Watchdog Fights Lap Dog Image
Shalowitz, Deborah
Business Insurance v21n37 PP: 1,65-67 Sep 14, 1987
AVAILABILITY: ABI/INFORM

Critics charge that the Occupational Safety & Health Administration (OSHA) is far too slow in developing workplace safety standards and that penalties proposed for violations of safety rules are too few. OSHA administrator John A. Pendergrass defends OSHA, saying it is merely suffering from growing pains and noting the recently issued hazard communication standard. He promises increased activity from the agency regarding: 1. formaldehyde exposure, 2. hazardous waste handling, and 3. concrete construction. Detractors are not satisfied with the explanation, however, and maintain OSHA actions are often too little, too late. Pendergrass acknowledges agency slowness but insists that OSHA is continually refining its inspection methods and targeting special groups within industries for action. Additionally, OSHA provides funding to assist nonprofit organizations develop programs to educate employees and employers about workplace hazards and their abatement. The agency's budget, currently at $225.8 million, will rise to $244.4 in 1988 if its latest budget request is approved by Congress. Graphs. (ABI/INFORM)

INFORMING THE PUBLIC

Communicating Risk: A Community Case History
Health And Environment Digest v1n11 PP:
December 1987

Community Involvement in Emergency Plans for Chemical Facilities
Burns, Carolyn C.; Bell, Donald W.
Professional Safety v32n7 PP: 11-15 Jul 1987
AVAILABILITY: ABI/INFORM
The Superfund Amendments and Reauthorization Act of 1986 (SARA) contains the freestanding Title 3 that encourages planning at state and local levels to provide residents and governments with information about potential chemical hazards in their communities. Title 3 is known as the Emergency Planning and Community Right-to-Know Act of 1986, and it contains requirements for both governments and the chemical industry. In emergency plan development, Title 3 emphasizes the need for such actions as accident assessment, notification, and communication and protective action. In addition, guidelines for emergency plan maintenance are outlined. Title 3 also recommends coordination of training programs so that state and corporate efforts are not wasteful and duplicative. References.
(ABI/INFORM)

Consumers Guide To Safer Pesticide Use
Office of Public Affairs, U.S. Environmental Protection Agency
Washington, D.C. September 1987 OPA 87-013

OVERCOMING THE BARRIERS TO PUBLIC ACCEPTANCE OF WASTE MANAGEMENT FACILITIES,
CONNOR DESMOND M. ; SVENDSEN ANN C.
(CONNOR DEVELOPMENT SERVICES LTD, CANADA) AND ; (ONTARIO WASTE MANAGEMENT CORP, CANADA),
ENV CANADA/ET AL 8TH CANADIAN WASTE MANAGEMENT CONF, HALIFAX, SEP 3-5, 86, P1(11)
CONF PAPER VARIOUS BARRIERS ARE IDENTIFIED TO PUBLIC ACCEPTANCE OF WASTE MANAGEMENT FACILITIES. EFFECTIVE APPROACHES FOR OVERCOMING THESE OBSTACLES INCLUDE ENVIRONMENTAL MONITORING, VALUE TRACKING, TECHNOLOGICAL EDUCATION, AND PERCEIVED RISK MANAGEMENT. A CASE STUDY REVEALS HOW THESE AND OTHER METHODS WERE USED TO WIN PUBLIC APPROVAL FOR SITING A REFUSE MANAGEMENT COMPLEX IN LOWER BRITISH COLUMBIA, CANADA. THE PROJECT PLACED A HIGH PRIORITY ON PUBLIC INVOLVEMENT AND OFFERED REAL OPPORTUNITIES FOR THE PUBLIC TO OBTAIN INFORMATION AND TO PARTICIPATE IN THE OUTCOME. (10 REFERENCES) (ENVIROLINE)

Radon Risk Communication Project Interim Report
Program Evaluation Division Office of Policy, Planning & Evaluation U.S. Environmental Protection Agency
October 27, 1987

An important responsibility of many EPA programs is to communicate risk to the public. Yet few of these programs have systematically examined whether people receive, read or understand the communication materials distributed. With the need to evaluate such efforts apparent, Region III requested that the Program Evaluation Division in the Office of Policy, Planning and Evaluation undertake a project to develop and test radon risk communication materials as part of Region III's planned radon outreach campaign. As a result, OPPE, Region III and the State of Maryland agreed to test the effectiveness of radon communication materials in two pilot communities in Maryland during the 1987/88 heating season. This interim report: (1) reviews information collected during the preliminary phase of the project and discusses its implications for project design; (2) outlines what risk communication outreach efforts will be used during the 1987/88 heating season and why these were selected; and (3) presents the next stages of the project.

Speaking of Risk
Civil Engineering. Vol.58 No. 2 February 1988.
p. 59-61.

INFORMING THE WORKER

OMB Calls for Changes in Embattled Hazcom Standard
Reid, Robert
Occupational Hazards v49n12 PP: 43-47 Dec 1987
AVAILABILITY: ABI/INFORM
The Office of Management and Budget (OMB) recently disapproved some of the paperwork requirements of the Occupational Safety and Health Administration's (OSHA) hazard communication standard. OMB claims that OSHA failed to comply with the Paperwork Reduction Act of 1980. OMB also disapproved of the OSHA requirement covering consumer products excluded from the "hazardous chemical" definition. In addition, OSHA disapproved of the portion of the standard dealing with all drugs regulated by the Food and Drug Administration in the nonmanufacturing sector. In another area of criticism, OMB told OSHA to explain what were to be considered "normal conditions of use." Clarifications and provisions in the expanded hazard communications standard are reviewed. There is concern about the cost of implementing the standard. The Small Business Administration has estimated that the expanded standard would cost over $1.8 billion in its first year. (ABI/INFORM)

The New Jersey Right to Know Act. (Symposium: Toxic Waste)
Treat, Sharon Anglin
Rutgers Law Journal 38 n4 755-790 Summ, 1986
GEOGRAPHIC CODE: NNUSLNJ
JURISDICTION: New Jersey
STATUTE: New Jersey Worker and Community Right to Know Act
DESCRIPTORS: Right to know (Hazardous substances)--law and legislation
(LEGAL RESOURCE INDEX)

Report to the governor and the legislature of the state of New Jersey on the implementation of the Worker and Community Right to Know Act, 1983-1987.
New Jersey. Dept. of Health.
My '87 viii+106p, tables charts
ORDER INFO: CN 368, Trenton, NJ 08625 pa
LANGUAGE: Engl
DOC TYPE: M
Evaluates activities of the state departments of Health, Environmental Protection, and Labor.
(PAIS)

Right to Know Promotes Health and Safety
Manji, James F.
Production Engineering v34n9 PP: 62-70 Sep 1987
AVAILABILITY: ABI/INFORM
The Occupational Safety & Health Administration's OSHA Hazard

Communication Standard, or Right to Know law, effective since May 25, 1986, requires manufacturers that produce chemicals to label all shipped containers of hazardous chemicals and to provide purchasers with Material Safety Data Sheets (MSDS). According to Robert N. Steinwurtzel of the law firm of Collier, Shannon, Rill & Scott, the law has 4 main elements. The first is a written hazard communication program, which should contain certain items and be available to employees. The 2nd element specifies a program for MSDSs that should designate responsibility for obtaining and Rmaintaining the sheets and also address how they will be maintained and updated, what happens if they are not received, and employee access to them. A 3rd written program concerns employee training; the 4th element is a list of chemicals for which MSDSs are required. Critics say the law is ambiguous, but David Cox of Chem-Trend Inc. sees it as providing some welcome flexibility in compliance. (ABI/INFORM)

Whose "right-to-know" what? (Small Business Problems and Planning)
Sparrow, Herbert G.; Trickey, Elizabeth
Michigan Bar Journal 66 n7 668-670 July, 1987
CODEN: MBJODR
GEOGRAPHIC CODE: NNUS
JURISDICTION: United States
DESCRIPTORS: Right to know (Hazardous substances)--analysis; Employers' liability--analysis
(LEGAL RESOURCE INDEX)

'Right to Know' Standard to Cover All Companies
Shalowitz, Deborah
Business Insurance v2in34 PP: 1,24 Aug 24, 1987
AVAILABILITY: ABI/INFORM

According to a new federal rule effective in the spring of 1988, all employers must inform workers of the potential dangers of any hazardous substance used in the workplace. The Occupational Safety and Health Administration's (OSHA) newly expanded hazard communication standard will cover a total of 32 million workers in 3.5 million locations, at an estimated cost of $687.2 million during the first year. Although employer representatives generally voice support for the "right to know" rule, Jim Anderson of the National Association of Wholesaler-Distributors notes that compliance will be particularly difficult for small- and medium-sized firms. Employers whose workers are exposed to hazardous substances must establish a hazard communication program that includes: 1. labeling containers of potentially hazardous materials with appropriate warnings, and 2. developing material safety data sheets detailing the substances' properties and the nature of the hazard. (ABI/INFORM)

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